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A SELECTION
OF
INTERESTING EXTRACTS,
FOR USE IN SCHOOLS AND FAMILIES.

BY
THOMAS OLIPHANT,
CHARLOTTE SQUARE, EDINBURGH.

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*** * A Book of Extraets for Advanced Classes is in
* Preparation.**

THE following Lessons are specially intended for the use of Pupils from Nine to Twelve years of age.

In selecting the pieces, the compiler was guided mainly by the consideration that the reading for such youthful students should be light and varied rather than solid.

A marked prominence has been given to subjects of Natural History, Incidents of Travel and Adventure, Descriptions of Places, and Historical Events; the object in view being not merely to convey information, but also to excite interest and give a taste for reading.

CHARLOTTE SQUARE,

July 1862.



CONTENTS.

Prose.

	PAGE
The New Year, Miller,	1
Lichen and Mosses, Ruskin,	4
Calm Latitudes, Gosse,	5
Adventure with a Bear, Scoresby,	9
Description of Canton, Smith,	13
Why an Apple Falls, <i>Evenings at Home,</i>	16
Snakes and Snake-Charmers, <i>Chambers' Miscellany,</i>	21
Employment of Time, Bowring,	28
The Silkworm, Jesse,	31
Things we Know about the Earth, Gaussen,	36
Surrender of Calais to Edward III., Hume,	38
Order of Providence, Jesse,	41
The Gorilla, Gosse,	46
A Japanese Conjuror, Osborn,	48
The Atmosphere, Anonymous,	50
Metamorphoses of Insects, Kirkby,	52
The World of Waters, Harvey,	57
Traces of Ocean, Miller,	62
Dinner in the Fifteenth Century, <i>Penny Magazine,</i>	65
Windsor, Jesse,	66
Conflagration of a Forest in Sweden, Brooke,	68
Origin of Iron and Coal, Buckland,	70
The Plain of Esdraëlon, Rev. J. D. Burns,	71
Vision of Mirza, Addison,	77

		PAGE
The Eye, the Ear, and the Hand,	Wilson,	81
The Battle of Killiecrankie, .	Macaulay,	87
From Smyrna to Constantinople,	Stephens,	92
The Economy of Nature, .	Jesse,	98
The Glory of the Cross of Christ,	Maclaurin,	101
Death-Bed Consolations, .	Greyson,	102
Why the Earth Moves Round the		
Sun,	<i>Evenings at Home,</i>	108
Sunset in Eden,	Mitchell,	112
The Astronomer Never Dies, .	<i>Id.</i>	113
"Ship Ahoy!"	<i>Nautical Magazine,</i>	116
Life Everywhere!	<i>Cornhill Magazine,</i>	118
An Apologue,	James Hamilton, D.D.,	120
Earthquakes,	Buff,	125
First Impression of an Earthquake,	Humboldt,	128
A Tempest,	Dickens,	129
Sunlight after Storm, . . .	Ruskin,	132
The Geysers,	Henderson,	134
Beaver Trapping,	Ballantyne,	137
Grains of Dust,	Hunt,	139
Adventure with a Buffalo, .	<i>Romance of Nat. Hist.,</i>	144
The Rocky Sea Shore, . . .	Harvey,	146
Ruins of Nineveh,	Layard,	149
Instinct and Reason, . . .	Jesse,	155
The Burning of Moscow, . .	Scott,	159
Grass,	Ruskin,	164
Volcanic Islands,	<i>The Ocean,</i>	166
The Norsemen,	<i>Good Words,</i>	170
Petra,	Stephens,	174
The World Passeth Away, .	Chalmers,	176

	PAGE
The Blessings of Salvation, . . . Thomson,	178
Writing Materials, <i>Penny Magazine</i> ,	184
Jelly Fishes, Harvey,	187
Alexander and the African Chief, Coleridge,	192
A Prairie, Stewart,	194
Fire on the Prairies, Jones,	195
Père La Chaise, Longfellow,	202
The Mouths of Animals, Paley,	204
The Arctic Regions, Gosse,	207
Shooting the Rapids of the St. Lawrence, Mackay,	212
Down in a Diving-Bell, <i>Eclectic Review</i> ,	214
Vesuvius, M. I. M. D.,	224
Autumn, Irving,	228
Earthquake at Lisbon, Clarke,	231
The Moisture of the Air, and the Fall of Wet, Buff,	234
The Pardon of Sin obtained through Faith, Chalmers,	244
The Office of the Holy Spirit, <i>Id.</i>	245
Plants, <i>Wild Flowers of the Year</i>	246
Coral Structures, Gosse,	249
What a Change! <i>Leisure Hours</i> ,	252
Change of the Monsoon, Tennant,	257
Spring, Longfellow,	259
Falls of Niagara, Howison,	262
Dolphins in Pursuit of Flying-Fish, Hall,	266
The Infant Prince, Miller,	268
The Microscopic World, Harvey,	275
Sapping under Difficulties, Ballantyne,	277

	PAGE
The Pyramids,	Stephens, 278
The Discovery of America,	Robertson, 283
The Gulf Stream,	Maury, 295
Visit to Pompeii,	M. I. M. D., 297
A Brazilian Forest,	Darwin, 302
Claims of the Jews,	Noel, 306
The Winds,	Buff, 311
The Animal Kingdom,	<i>Cornhill Magazine</i> , 314
Scenery of the Carboniferous Forests,	Geikie, 321
The Blackbird,	Thackeray, 324

Poetry.

Ring out Wild Bells,	Tennyson, 3
To a Waterfowl,	Bryant, 8
The Grave of Howard,	Bowles, 11
The Inquiry,	Mackay, 21
The Voyager,	Marsh, 19
The Blind Child,	Bloomfield, 20
The Evening Cloud,	Wilson, 25
The Sky-Lark,	Hogg, 26
Thankfulness,	Procter, 27
The Squire's Pew,	Jane Taylor, 33
My Times are in Thy hand,	Waring, 44
Havelock,	<i>From Punch</i> , 51
The Butterfly's Birth-day,	Roscoe, 55
The Ocean,	Byron, 63

Hymn of the Hebrew Maid, . . .	Scott,	73
Confidence in God, . . .	Addison,	75
Providence, . . .	Thomson,	76
The Purifier of Silver, . . .	Montgomery,	77
The Burial of Sir John Moore, .	Wolfe,	86
The Battle of Killiecrankie, . .	Aytoun,	91
The Charge of the Light Brigade,	Tennyson,	96
The Death-Bed, . . .	Hood,	104
Nearness to God, . . .	Adams,	105
The Family in Heaven and on Earth,	Edmeston,	106
The Christian's Rest, . . .	Milman,	107
The Shooting Star, . . .	Hurst,	114
A Moonlight Scene, . . .	Southey,	115
Give Me thy Heart, . . .	Procter,	123
Calm after Storm, . . .	Moore,	133
The Death of Keeldar, . . .	Scott,	141
Night Cry to God, . . .	H. Mary T.,	152
God the only Comforter, . . .	Moore,	153
Sunrise, . . .	Turner,	154
Wellington, . . .	Tennyson,	163
The Battle of the Baltic, . . .	Campbell,	172
Rock of Ages, . . .	Toplady,	180
Jerusalem, . . .	Moore,	180
The Better Land, . . .	Hemans,	183
The Raven, . . .	Poe,	190
Flodden Field, . . .	Scott,	197
The Arctic Seas, . . .	Montgomery,	210
The Aurora Borealis, . . .	<i>Id.</i> ,	211
The Drowned at Sea, . . .	E. H. O.,	222
Soliloquy on Sleep, . . .	Shakspeare,	223

	Page
Autumnal Eve,	Pollock, 230
To Hesperus,	Byron, 230
Evening,	Milton, 231
The Cloud,	Shelley, 241
Great Britain— { England,	Coleridge, } 255
{ Scotland,	Leyden, } 255
The Sea Shore,	Crabbe, 256
Spring,	Hood, 261
Sonnet on Spring,	Turner, 262
Britannia,	Thomson, 271
The Battle of Ivry,	Macaulay, 280
Voyage of Columbus,	Rogers, 285
Pompeii,	<i>Lyrical Gems</i> , 301
My Mother's Picture,	Cowper, 303
A Hebrew Melody,	Byron, 308
Excelsior,	Longfellow, 309
Landing of the British Army in the Peninsula,	Scott, 317
The Field of Waterloo,	Byron, 319
The Cantata for the Opening of the Great Exhibition (1862),	Tennyson, 327

INTERESTING EXTRACTS

IN

PROSE AND VERSE.

THE NEW YEAR.

IN a few hours we shall have entered on a new year. It is barely ninety degrees distant from us at the present moment. It landed on the eastern extremity of Asia just as we were rising from our breakfasts this morning ; and it has been gliding westwards towards us, in the character of *one o'clock in the morning*, ever since. In a few hours more it will be striding across the backwoods of America, in its seven-league boots, and careering over the Pacific in its canoe.

The past year has witnessed many curious changes, as a dweller in time ; the coming year has already looked down on many a curious scene, as a journeyer over space. It has seen Cochin-China, with all its unmapped islands, and the ancient empire of Japan, with its cities and provinces unknown to Europe. It has heard the roar of a busy population amid the thousand streets of Peking, and the wild dash of the midnight tides as they fret the rocks of the Indian Archipelago. It has been already with our friends in Hindustan ; it has been greeted, we doubt not, with the voice of prayer, as the slow iron hand of the city

A

clock indicated its arrival to the missionaries at Madras ; it has swept over the fever jungles of the Ganges, where the scaled crocodile startles the thirsty tiger as he stoops to drink, and the exposed corpse of the benighted Hindu floats drearily past. It has travelled over the land of pagodas, and is now entering on the land of mosques. Anon it will see the moon in her wane, casting the dark shadows of columned Palmyra over the sands of the desert ; and the dim walls of Jerusalem looking out on a silent and solitary land, that has cast forth its interim tenants, and waits unappropriated for the old predestined race, its proper inhabitants. In two short hours it will be voyaging along the cheerful Mediterranean, greeting the rower in his galley among the isles of Greece, and the seaman in his barque embayed in the Adriatic. And then, after marking the red glare of *Ætna* reflected in the waves that slumber around the moles of Syracuse,—after glancing on the towers of the Seven-hilled City, and the hoary snows of the Alps, —after speeding over France, over Flanders, over the waves of the German Sea, it will be with ourselves, and the tall ghostly tenements of Dun-Edin will re-echo the shouts of the High Street. Away, and away, it will cross the broad Atlantic, and visit watchers in their beacon-towers on the deep, and the emigrant in his log-hut, among the brown woods of the west ; it will see the fire of the red man umbering with its gleam tall trunks and giant branches, in some deep glade of the forest ; and then mark, on the far shores of the Pacific, the rugged bear stalking sullenly over the snow. Away, and away, and the vast globe shall be girdled by the zone of the new-born year.

Many a broad plain shall it have traversed, that is still unbroken from the waste,—many a moral wilderness, on which the Sun of Righteousness has not yet arisen. Nearly eighteen and a-half centuries shall have elapsed since the shepherds first heard the midnight song in Bethlehem,—“ Glory to God in the highest, peace on earth, good will to

the children of men." And yet the coming year shall pass, in its first visit, over prisons, and gibbets, and penal settlements, and battle-fields on which the festering dead moulder unburied ; it will see the shotted gun and the spear, and the murdering tomahawk, slaves in their huts, and captives in their dungeons. But the years shall pass, and a change shall come : the sacrifice on Calvary was not offered up in vain, nor in vain hath the Adorable Saviour conquered, and ascended to reign as King and Lord over the nations. The kingdoms shall become his kingdoms, the people his people. The morning rises slowly and in clouds, but the dawn has broken ; and it shall shine forth more and more, until the twilight shadows shall have dispersed, and the sulphurous fogs shall have dissipated, and all shall be peace and gladness amid the blaze of the perfect day. MILLER.

Ring out wild bells to the wild sky,
The flying cloud, the frosty light :
The year is dying in the night ;
Ring out, wild bells, and let him die.

Ring out the old, ring in the new,
Ring, happy bells, across the snow ;
The year is going, let him go ;
Ring out the false, ring in the true.

Ring out the grief that saps the mind,
For those that here we see no more ;
Ring out the feud of rich and poor,
Ring in redress to all mankind.

Ring out false pride in place and blood,
The civic slander and the spite ;
Ring in the love of truth and right,
Ring in the common love of good.

Ring out old shapes of foul disease,
Ring out the narrowing lust of gold ;
Ring out the thousand wars of old,
Ring in the thousand years of peace.

Ring in the valiant man and free,
The larger heart, the kindlier hand :
Ring out the darkness of the land,
Ring in the Christ that is to be.

TENNYSON.

LICHEN AND MOSSES.

MEEK creatures ! the first mercy of the earth, veiling with hushed softness its dintless rocks ; creatures full of pity, covering with strange and tender honour the scarred disgrace of ruin,—laying quiet finger on the trembling stones, to teach them rest. No words, that I know of, will say what these mosses are. None are delicate enough, none perfect enough, none rich enough. How is one to tell of the rounded bosses of furred and beaming green,—the starred divisions of rubied bloom, fine-filmed, as if the Rock Spirits could spin porphyry as we do glass,—the traceries of intricate silver, and fringes of amber, burnished through every fibre into fitful brightness, yet all subdued and pensive, and framed for simplest, sweetest, offices of grace. They will not be gathered, like the flowers, for chaplet or love token ; but of these the wild bird will make its nest, and the wearied child his pillow.

And, as the earth's first mercy, so they are its last gift to us. When all other service is vain, from plant and tree, the soft mosses and grey lichen take up their watch by the headstone. The woods, the blossoms, the gift-bearing grasses, have done their parts for a time, but these do ser-

vice for ever. Trees for the builder's yard, flowers for the bride's chamber, corn for the granary, moss for the grave.

Yet as in one sense the humblest, in another they are the most honoured of the earth-children. Unfading as motionless, the worm frets them not, and the autumn wastes not. Strong in lowliness, they neither blanch in heat nor pine in frost. To them, slow-fingered, constant-hearted, is entrusted the weaving of the dark, eternal tapestries of the hills; to them, slow-pencilled, iris-dyed, the tender framing of their endless imagery. Sharing the stillness of the unimpassioned rock, they share also its endurance; and while the winds of departing spring scatter the white hawthorn blossom like drifted snow, and summer dims on the parched meadow the drooping of its cowslip-gold,—far above, among the mountains, the silver lichen-spots rest, star-like, on the stone; and the gathering orange-stain upon the edge of yonder western peak reflects the sunsets of a thousand years.

RUSKIN.

CALM LATITUDES.

"Down dropp'd the breeze, the sails dropp'd down,
 'Twas sad as sad could be;
 And we did speak, only to break
 The silence of the sea.

"Day after day, day after day,
 We stuck, nor breath nor motion;
 As idle as a painted ship
 Upon a painted ocean."

Not a cloud tempers the fierce burning rays of the sun, which shoot directly on our heads; the deck becomes scalding hot to the feet, the melting pitch boils up from the seams, the tar continually drops from the rigging; the masts and booms display gaping cracks, and the flukes of the anchors are too hot to be touched with impunity. In

vain, we seek for refuge beneath the sails which hang lazily from the yards, inviting the desired gales ; for so perpendicular are the fiery beams in the heat of the day, that very little shadow is afforded by the sails, and even that little is constantly shifting from the vessel's change of position in the swell.

In such circumstances I have in some measure felt the force of those similitudes in the Sacred Prophets, in which the blessings of the coming reign of the Lord Jesus Christ, after the long apostasy, are likened to "the shadow of a great rock in a weary land." "Thou hast been a shadow from the heat, when the blast of the terrible ones is as a storm against the wall. Thou shalt bring down the noise of strangers, as the heat in a dry place ; even the heat with the shadow of a cloud."

Yet, though day after day rolls on and leaves us still in the same position, there are not wanting many things to beguile the weariness of the time. The gorgeous beauty of the sun's setting almost makes amends for his unmitigated heat by day. As his orb approaches the western horizon, the clouds, which have been absent during the day, begin to form in that quarter of the heavens ; and, as he sinks, assume hues of the richest purple edged with gold, now hiding his disc, now allowing him to flash out his softened effulgence through crimson openings, till he falls beneath the massy, mountain-like bed of cloud that seems to lie heavily upon the surface of the sea. Then the whole array begins to take the appearance of a lovely landscape ; the clouds forming the land, while the open sky represents calm water. Sometimes we seem to see the long capes and bold promontories of a broken and picturesque coast, deeply indented with bays and creeks, and fringed with groups of islands ; at others, silvery lakes, studded with little wooded islets, appear embosomed in mountains, or surrounded by gentle slopes, here and there clothed with umbrageous woods.

Such an appearance of reality is given to these fleeting scenes, that it is difficult, after gazing at them for a few minutes, to believe they are mere shadows. The mind forgets the world of waters around, and, in the enthusiasm of the hour, goes out in busy imagination to that beautiful land, and roves among its valleys and hills in dreamy enjoyment. We are not, then, surprised that the imaginative Greeks should have sung of their Fortunate Islands, the habitations of the blessed, placed far away in the ocean of the west, and invested with more than earthly loveliness; nor that the existence of isles of similar character, in the same mysterious, because unknown, regions, should have found a place in the mythology of even so remote a nation as the Hindoos.

The beauteous scenes before us, however, are as transitory as they are lovely: night comes on with a rapidity, startling to us accustomed to the long twilight of the north; the rich hues with which the western sky is suffused, the crimson and ruddy gold, speedily change to a warm and swarthy brown, and one by one the stars come out, and light up the sky with a strange and unwonted effulgence. Humboldt describes in the following terms his own emotions on first seeing the brilliant stars of these regions:

“From the time we entered the torrid zone, we were never wearied with admiring, every night, the beauty of the southern sky, which as we advanced towards the south, opened new constellations to our view. We feel an indescribable sensation when, on approaching the equator, and particularly on passing from one hemisphere to the other, we see those stars, which we have contemplated from our infancy, progressively sink, and finally disappear. Nothing awakens in the traveller a livelier remembrance of the immense distance by which he is separated from his country, than the aspect of an unknown firmament. The grouping of the stars of the first magnitude, some scattered nebulae rivalling in splendour the milky way, and tracts of space

remarkable for their extreme blackness, give a particular physiognomy to the southern sky. This sight fills with admiration even those, who, uninstructed in the branches of accurate science, feel the same emotions of delight in the contemplation of the heavenly vault, as in the view of a beautiful landscape, or a majestic river. A traveller has no need of being a botanist to recognize the torrid zone on the mere aspect of its vegetation ; and, without having acquired any notions of astronomy, he feels he is not in Europe, when he sees the immense constellation of the ship, or the phosphorescent clouds of Magellan, arise on the horizon. The heaven and the earth, everything in the equinoctial regions, assumes an exotic character." GOSSE.

TO A WATERFOWL.

WHITHER, midst falling dew,
While glow the heavens with the last steps of day,
Far, through their rosy depths, dost thou pursue
Thy solitary way?

Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As, darkly painted on the crimson sky,
Thy figure floats along.

Seek'st thou the plashy brink
Of weedy lake, or marge of river wide,
Or where the rocking billows rise and sink
On the chafed ocean side?

There is a Power whose care
Teaches thy way along that pathless coast,—
The desert and illimitable air,—
Lone wandering, but not lost.

All day thy wings have fanned,
At that far height, the cold, thin atmosphere,
Yet stoop not, weary, to the welcome land,
Though the dark night is near.

And soon that toil shall end ;
Soon shalt thou find a summer home, and rest,
And scream among thy fellows ; reeds shall bend,
Soon o'er thy sheltered nest.

Thou'rt gone, the abyss of heaven
Hath swallowed up thy form ; yet, on my heart
Deeply hath sunk the lesson thou hast given,
And shall not soon depart.

He who, from zone to zone,
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

BRYANT.

ADVENTURE WITH A BEAR IN THE ARCTIC SEA.

A WHALING vessel lay moored to a piece of ice, on which, at a considerable distance, a large bear was observed prowling about for prey. One of the ship's company, emboldened by an artificial courage, derived from the free use of rum, which in his economy he had stored for special occasions, undertook to pursue and attack the bear that was within view. Armed only with a whale-lance, he resolutely, and against all persuasion, set out on his adventurous exploit. A fatiguing journey of about half a league, over a yielding surface of snow and rugged hummocks, brought him within a few yards of the enemy, which, to his surprise, undauntedly faced him, and seemed to invite him to the combat. His courage being by this time greatly subdued, partly by evaporation of the

stimulus, and partly by the undismayed and even threatening aspect of the bear, he levelled his lance, in an attitude suited either for offensive or defensive action, and stopped. The bear also stood still ; in vain the adventurer tried to rally courage to make the attack ; his enemy was too formidable, and his appearance too imposing. In vain also he shouted, advanced his lance, and made feints of attack ; the enemy either not understanding or despising such unmanliness, obstinately stood his ground. Already the limbs of the sailor began to quiver ; but the fear of ridicule from his messmates had its influence, and he yet scarcely dared to retreat. Bruin, however, possessing less reflection, or being regardless of consequences, began, with audacious boldness, to advance. His nigh approach and unshaken step subdued the spark of bravery and that dread of ridicule that had hitherto upheld our adventurer ; he turned and fled. But now was the time of danger ; the sailor's flight encouraged the bear in turn to pursue, and being better practised in snow-travelling, and better provided for it, he rapidly gained upon the fugitive. The whale-lance, his only defence, encumbering him in his retreat, he threw it down, and kept on. This fortunately excited the bear's attention ; he stopped, pawed it, bit it, and then renewed the chase. Again he was at the heels of the panting seaman, who, conscious of the favourable effects of the lance, dropped one of his mittens ; the stratagem succeeded, and while Bruin again stopped to examine it, the fugitive, improving the interval, made considerable progress a-head. Still the bear resumed the pursuit with a most provoking perseverance, except when arrested by another mitten, and finally, by a hat, which he tore to shreds between his fore-teeth and paws, and would, no doubt, soon have made the incautious adventurer his victim, who was now rapidly losing strength, but for the prompt and well-timed assistance of his shipmates—who, observing that the affair had assumed a dangerous

aspect, sallied out to his rescue. The little phalanx opened him a passage, and then closed to receive the bold assailant. Though now beyond the reach of his adversary, the dismayed fugitive continued onwards, impelled by his fears, and never relaxed his exertions until he fairly reached the shelter of his ship. The bear once more came to a stand, and for a moment seemed to survey his enemies with all the consideration of an experienced general; when, finding them too numerous for a hope of success, he very wisely wheeled about, and succeeded in making a safe and honourable retreat.

SCORESBY.

THE GRAVE OF HOWARD.

WHEN o'er the sounding Euxine's stormy tides
In hostile pomp the Turk's proud navy rides,
Bent, on the frontiers of the Imperial Czar,
To pour the tempest of vindictive war;
If onward to those shores they haply steer
Where, Howard, thy cold dust reposes near,
Whilst o'er the wave the silken pennants stream,
And seen far off the golden crescents gleam,
Amid the pomp of war, the swelling breast
Shall feel a still unwonted awe impress'd,
And the relenting Pagan turn aside
To think—on yonder shore the Christian died!
But thou, O Briton! doomed, perhaps, to roam
An exile many a year, and far from home,
If ever fortune thy lone footsteps leads
To the wild Dnieper's banks and whispering reeds,
O'er Howard's grave thou shalt impassion'd bend,
As if to hold sad converse with a friend.
Whate'er thy fate upon this various scene,
Where'er thy weary pilgrimage has been,

There shalt thou pause, and shutting from thy heart
 Some vain regrets that oft unbidden start,
 Think upon him, to every lot resign'd,
 Who wept, who toil'd, who perish'd for mankind.

BOWLES.

THE INQUIRY.

TELL me, ye winged winds, that round my pathway roar,
 Do ye not know some spot where mortals weep no more ?
 Some lone and pleasant dell, some valley in the west,
 Where, free from toil and pain, the weary soul may rest ?
 The loud wind dwindled to a whisper low,
 And sigh'd for pity as it answer'd, "No !"

Tell me, thou mighty deep, whose billows round me play,
 Know'st thou some favoured spot, some island far away,
 Where weary man may find the bliss for which he sighs ?
 Where sorrow never lives, and friendship never dies ?
 The loud waves, rolling in perpetual flow,
 Stopp'd for awhile, and sigh'd, to answer, "No !"

And thou, serenest moon, that with such holy face,
 Dost look upon the earth asleep in night's embrace,
 Tell me, in all thy round hast thou not seen some spot,
 Where miserable man might find a happier lot ?
 Behind a cloud, the moon withdrew in woe,
 And a voice sweet, but sad, responded, "No !"

Tell me, my secret soul, O ! tell me, Hope and Faith,
 Is there no resting-place from sorrow, sin, and death ?
 Is there no happy spot where mortals may be bless'd—
 Where grief may find a balm, and weariness a rest ?
 Faith, Hope, and Love, best boons to mortals given,
 Waved their bright wings, and whisper'd, "Yes ! in
 Heaven!"

MACKAY.

DESCRIPTION OF CANTON.

THE recently-arrived stranger naturally manifests surprise and incredulity on being told that the estimated population of Canton exceeds a million. As soon, however, as he visits the close streets, with their dense population and busy wayfarers, huddled together into lanes from five to nine feet wide, where Europeans could scarcely inhale the breath of life, the greatness of the number no longer appears incredible. After the first feelings of novelty have passed away, disappointment, rather than admiration, occupies the mind. After leaving the open space before the factories, we behold an endless succession of narrow avenues, scarcely deserving the name of streets. As the visitor pursues his course, narrow lanes still continue to succeed each other, and the conviction is gradually impressed on the mind, that such is the general character of the streets of the city. Along these, busy traders, mechanics, barbers, venders, and porters, make their way; while occasionally the noisy abrupt tones of vociferating coolies remind the traveller that some materials of bulky dimensions are on their transit, and suggest the expediency of keeping at a distance, to avoid collision. Now and then the monotony of the scene is relieved by some portly mandarin, or merchant of the higher class, borne in a sedan-chair on the shoulders of two, or sometimes four men. Yet, with all this hurry and din, there seldom occurs any accident or interruption of good nature. On the river the same order and regularity prevail. Though there are probably not fewer than 200,000 denizens of the river, whose hereditary domains are the watery element that supports their little dwelling, yet harmony and good-feeling are conspicuous in the accommodating manner with which they make way for each other. These aquatic tribes of the human species show a most philosophic spirit of equanimity, and contrive, in this way, to strip daily life of many of its little troubles; while the fortitudo and

patience with which the occasional injury or destruction of their boat is borne, is remarkable.

To return from the wide expanse of the river-population to the streets in the suburbs, the same spirit of contented adaptation to external things is everywhere observable ; and it is difficult which to regard with most surprise—the narrow abodes of the one, or the little boats which serve as family residences to the other. There is something of romance in the effect of Chinese streets. On either side are shops, decked out with native ware, furniture and manufactures of various kinds. These are adorned by pillars of sign-boards, rising perpendicularly, and inscribed from top to bottom with the various kinds of saleable articles which may be had within. Native artists seem to have lavished their ingenuity on several of these inscriptions, and, by their caligraphy, to give some idea of the superiority of the commodities for sale. Many of these sign-boards contain some fictitious emblem, adopted as the name of the shop, similar to the practice prevalent in London two centuries ago. On entering, the proprietor, with his assistants or partners, welcomes a foreigner with sundry salutations ; sometimes advancing to shake hands, and endeavouring to make the most of his scanty knowledge of English. They will show their saleable articles with the utmost patience, and evince nothing of disappointment if, after gratifying his curiosity, he departs without purchasing. At a distance from the factories, where the sight of a foreigner is a rarity, crowds of idlers, from fifty to a hundred, rapidly gather round the shop, and frequent embarrassment ensues from an incipient or imperfect knowledge of the colloquial medium. In these parts the shopkeepers know nothing but their own language, are more moderate in their politeness, and, as a compensation, put a less price on their wares. To write one's name in Chinese characters is a sure method of enhancing their good favour. Sometimes no fewer than eight or ten blind beggars find their way into a shop, and

there they remain, singing a melancholy dirge-like strain, and most perseveringly beating together two pieces of wood, till the weary shopman at length takes compassion on them, and provides for the quiet of his shop by giving a copper *cash* to each ; on receiving which they depart, and repeat the same experiment elsewhere. The streets abound with these blind beggars, who are seldom treated with indignity. A kindly indulgence is extended to them, and they enjoy a prescriptive right of levying a copper *cash* from every shop or house they enter. It is said that this furnishes a liberal means of livelihood to an immense number of blind persons, who, in many instances, are banded together in companies or societies, subject to a code of rules, on breach of which the transgressor is expelled the community, and loses his guild.

In every little open space there are crowds of travelling doctors, haranguing the multitude on the wonderful powers and healing virtues of the medicines which they expose for sale. Close by, some cunning fortune-teller may be seen, with crafty look, explaining to some awe-stricken simpleton his future destiny in life, from a number of books arranged before him, and consulted with due solemnity. In another part, some tame birds are exhibiting their clever feats, in singling out, from amongst a hundred others, a piece of paper enclosing a coin, and then receiving a grain of millet as a reward of their cleverness. At a little distance are some fruit-stalls, at which old and young are making purchases, throwing lots for the quantity they are to receive. Near these again are noisy gangs of people, pursuing a less equivocal course of gambling, and evincing, by their excited looks and clamours, the intensity of their interest in the issue. In another part may be seen disposed the apparatus of some Chinese tonsor, who is performing his skilful vocation on the crown of some fellow-countryman unable to command the attendance of the artist at a house of his own,

SMITH.

WHY AN APPLE FALLS.

"PAPA," said Lucy, "I have been reading to-day, that Sir Isaac Newton was led to make some of his great discoveries by seeing an apple fall from a tree. What was there extraordinary in that?"

P. There was nothing extraordinary; but it happened to catch his attention, and set him a thinking.

L. And what did he think about?

P. He thought by what means the apple was brought to the ground.

L. Why, I could have told him that—because the stalk gave way, and there was nothing to support it.

P. And what then?

L. Why then—it must fall you know.

P. But why must it fall?—that is the point.

L. Because it could not help it.

P. But why could it not help it?

L. I don't know—that is an odd question. Because there was nothing to keep it up.

P. Suppose there was not—does it follow that it must come to the ground?

L. Yes, surely!

P. Is an apple animate or inanimate?

L. Inanimate, to be sure?

P. And can inanimate things move of themselves?

L. No—I think not—but the apple falls because it is forced to fall.

P. Right! Some force out of itself acts upon it, otherwise it would remain for ever where it was, notwithstanding it were loosened from the tree.

L. Would it?

P. Undoubtedly! for there are only two ways in which it could be moved; by its own power of motion, or the power of something else moving it. Now the first you acknowledge it has not; the cause of its motion must there-

fore be the second. And what that is, was the subject of the philosopher's inquiry.

L. But every thing falls to the ground as well as an apple, when there is nothing to keep it up.

P. True—there must therefore be a universal cause of this tendency to fall.

L. And what is it?

P. Why, if things out of the earth cannot move themselves to it, there can be no other cause of their coming together, than that the earth pulls them.

L. But the earth is no more animate than they are : so how can it pull?

P. Well objected ! This will bring us to the point. Sir Isaac Newton, after deep meditation, discovered, that there was a law in nature called *attraction*, by virtue of which every particle of matter, that is, every thing of which the world is composed, draws towards it every other particle of matter, with a force proportioned to its size and distance. Lay two marbles on the table. They have a tendency to come together, and if there were nothing else in the world, they would come together ; but they are also attracted by the table, by the ground, and by every thing besides in the room ; and these different attractions pull against each other. Now, the globe of the earth is a prodigious mass of matter, to which nothing near it can bear any comparison. It draws, therefore, with mighty force every thing within its reach, which is the cause of their falling ; and this is called the *gravitation* of bodies, or what gives them *weight*. When I lift up anything, I act contrary to this force, for which reason it seems *heavy* to me, and the heavier, the more matter it contains, since that increases the attraction of the earth for it. Do you understand this ?

L. I think I do. It is like a load-stone drawing a needle.

P. Yes—that is an attraction, but of a particular kind, only taking place between the magnet and iron. But

gravitation, or the attraction of the earth, acts upon every thing alike.

L. Then it is pulling you and me at this moment.

P. It is.

L. But why do we not stick to the ground then ?

P. Because, as we are alive, we have a power of self-motion, which can to a certain degree overcome the attraction of the earth. But the reason you cannot jump a mile high as well as a foot, is this attraction, which brings you down again after the force of your jump is spent.

L. I think then I begin to understand what I have heard of people living on the other side of the world. I believe they are called *Antipodes*, who have their feet turned towards ours, and their heads in the air. I used to wonder how it could be that they did not fall off ; but I suppose the earth pulls them to it.

P. Very true, and whither should they fall ? What have they over their heads ?

L. I don't know—sky, I suppose.

P. They have. This earth is a vast ball, hung in the air, and continually spinning round, and that is the cause why the sun and stars seem to rise and set. At noon we have the sun over our heads, when the antipodes have the stars over theirs ; and at midnight the stars are over our heads, and the sun over theirs. So whither should they fall to more than we ?—to the stars or the sun ?

L. But we are up, and they are down.

P. What is up, but *from* the earth and *toward* the sky ? Their feet touch the earth and their heads point to the sky as well as ours ; and we are under their feet as much as they are under ours. If a hole were dug quite through the earth, what would you see through it ?

L. Sky, with the sun or the stars ; and now I see the whole matter plainly. But pray what supports the earth in the air ?

P. Why, where should it go ?

L. I don't know—I suppose where there was most to draw it. I have heard that the sun is a great many times bigger than the earth. Would it not go to that?

P. You have thought very justly on the matter, I perceive. But I shall take another opportunity of shewing you how this is, and why the earth does not fall into the sun, of which, I confess, there seems to be some danger. Meanwhile, think how far the falling of an apple has carried us!

L. To the antipodes, and I know not where.

P. You may see thence, what use may be made of the commonest fact by a thinking mind. EVENINGS AT HOME.

THE VOYAGER.

LAUNCH thy bark, mariner,
Christian, God speed thee!
Let loose the rudder bands,
Good angels lead thee.
Set thy sails warily;
Tempests may come.
Steer thy course steadily,
Christian, steer home!

Look to the weather-bow,
Breakers are round thee;
Let fall the plummet now,
Shallows may ground thee.
Reef in the foresail there,
Hold the helm fast,
So let the vessel wear,—
There swept the blast.

What of the night, watchman,
What of the night?

Cloudy, all's quiet;
 No land yet,—all's right.
 Be faithful, be vigilant;
 Danger may be
 In an hour when all seemeth
 Securest to thee.

How gains the leak so fast?
 Clear out the hold,
 Hoist up thy merchandise,
 Heave up thy gold.
 There! let the ingots go!
 Now the ship rights:
 Hurrah! the harbour's near,
 Lo! the red lights.

Slacken not thy course yet
 At inlet or island;
 Straight for the beacon steer,
 Straight for the high land.
 Crowd all thy canvas on,
 Cut through the foam.
 Christian, cast anchor now,
 Heaven is thy home!

MARSH.

 THE BLIND CHILD.

WHERE's the blind child so admirably fair,
 With guileless dimples, and with flaxen hair
 That waves in every breeze? He's often seen
 Beyond yon cottage wall, or on the green
 With others, match'd in spirit and in size,
 Health in their cheeks and rapture in their eyes.
 That full expanse of voice, to children dear,
 Soul of their sports, is duly cherish'd here.

And hark! that laugh is his—that jovial cry—
 He hears the ball and trundling hoop brush by,
 And runs the giddy course with all his might—
 A very child in everything but sight—
 With circumscribed, but not abated powers,
 Play, the great object of his infant hours.
 In many a game he takes a noisy part,
 And shows the native gladness of his heart;
 But soon he hears, on pleasure all intent,
 The new suggestion, and the quick assent;
 The grove invites delight, thrills every breast
 To leap the ditch, and seek the downy nest.
 Away they start, leave balls and hoops behind,
 And *one* companion leave—the boy is *blind*.
 His fancy paints their distant paths so gay,
 That childish fortitude awhile gives way;
 He feels his dreadful loss—yet short the pain—
 Soon he resumes his cheerfulness again.
 Pondering how best his moments to employ,
 He sings his little song of nameless joy,
 Creeps on the warm green turf for many an hour,
 And plucks, by chance, the white and yellow flower;
 Smoothing their stems, while resting on his knees,
 He binds a nosegay which he never sees;
 Along the homeward path then feels his way,
 Lifting his brow against the shining day,
 And, with a joyful rapture round his eyes,
 Presents a *sighing* parent with the prize!

BLOOMFIELD.

SNAKES AND SNAKE CHARMERS.

To new-comers in Hindostan, and particularly those of nervous temperament, snakes of various kinds constitute a source of perpetual alarm. Their numbers are immense,

and no place is sacred from their visitations. Just fancy the agreeable surprise resulting from such little occurrences as the following, which are far from being rare. You get up in a morning, after a feverish night perhaps; languidly you reach for your boots, and upon pulling on one, feel something soft before your toes, and on turning it upside down, and giving it a shake, out pops a small snake of the carpet tribe—as they are called, probably from their domestic propensities—wondering what can be the cause of his being thus rudely ejected from his night's quarters. Or suppose, at any time during the day, you should be musically inclined; you take your flute from its resting-place, and proceed to screw it together, but find, on making an attempt to play, that something is the matter, and on peeping into it, discover that a little serpentine gentleman has there sought and found a snug lodgment. Perhaps your endeavour to give it breath with your mouth, makes Mr Snake feel his habitation in the instrument uncomfortably cold, and, ere you are aware of his presence, he is out, and wriggling among your fingers.

Such incidents as these cause rather unpleasant starts to those who are new to Hindostanic matters, though the natives of the land, or persons who have been long resident in it, might only smile at the new-comer's uneasiness, and tell him that these little intruders were perfectly harmless. But even with the assurance of this fact, it is long ere most Europeans can tolerate the sight and presence of these snakes, much less feel comfortable under their cold touch. Besides, it is but too well known, that all these creatures are not innocuous. Well do I remember the fright that one poor fellow got in the barracks at Madras. He had possibly been indulging too freely overnight; at least, when he rose in the morning in question, he felt thirsty in the extreme. Yawning most volcanically, he made up to one of the room windows, where stood a large water-bottle or jar, one of those long-necked clay things in

which they usually keep fluids in the East. Upon taking this inviting vessel into his hands, he observed that there seemed to be but little water in it, yet enough, as he thought, to cool his parched throat; and he had just applied it to his lips, when something touched them—certainly not water, whatever else it might be. He hastily withdrew the vessel from his mouth, though still retaining it in his hands, when, to his amazement and horror, a regular cobra, the most deadly and dangerous of all the common serpents of India, reared its hideously distended and spectacled head from the jar, not a foot from its disturber's nose. "O murder!" cried the poor fellow, who was a son of Erin; and as he uttered the exclamation, he dashed bottle, snake, and all to the ground, and took to his heels, nor stopped until he was a full hundred yards from the spot. Here he told his story in safety; and the intruder was in good time got rid of by the cautious use of firearms.

The Hindoos, or at least the serpent-charmers among them, pretend, as is well known, to handle all sorts of snakes with impunity, to make them come and go at a call, and, in short, to have a cabalistic authority over the whole race. These pretensions are necessary to the exercise of their profession, which consists, in part, in ridding private houses of troublesome visitants of this description. One of these serpent-charmers will assert to a householder that there are snakes about his premises, and, partly from motives of fear, and partly from curiosity, the householder promises the man a reward, if he succeed in showing and removing them. The juggler goes to work, and soon snakes are seen to issue from some corner or another, obedient to his call. The performer takes them up fearlessly, and they meet like old friends. In fact, the opinion of the more enlightened residents in India is, that the snakes and their charmer *are* old friends; that he hid them there, and of course knew where to find them; and, moreover, that having long ago extracted the poisonous fangs, he may well

handle them without alarm. Still, a large portion of the community, Europeans as well as natives, believe that these charmers have strange powers over the snake tribe.

Snake-charming is not confined to India. There are some of the natives of Africa and America, who possess the power of what is called "charming," or producing a benumbing or stupefying effect on poisonous serpents and scorpions, by handling them. This power is in some natural and hereditary, while in others it is acquired by chewing the roots or other parts of certain plants, rubbing them in their hands, or bathing their bodies in water containing an infusion of them. In that part of Africa which lies northward of the great desert of Sahara, there was formerly a tribe called the Psylli, who seem to have possessed this power, either from nature or art, in a degree that occasioned the name of Psylli to be given to all persons capable of producing similar effects. Plutarch informs us that Cato, in his march through the desert, took with him a number of these Psylli, to suck out the poisons from the wounds of such of his soldiers as might be bitten by the numerous serpents which infested that region. It was then ignorantly believed that this power of subduing the poison was the effect of magic, and the Psylli, to confirm this belief, always, when in the exercise of this fascination, muttered spells or chanted verses over the person whom they were in the act of curing. Many have ventured to doubt the existence of this power being possessed by any class of people, but the concurrent testimony of the best accredited travellers seems to confirm the fact. Mr Bruce distinctly states, from minute personal observation, that *all* the blacks in the kingdom of Sennaar are perfectly armed by nature against the bite of either scorpion or viper. They take the horned snake—there the most common, and one of the most fatal of the viper tribe—in their hands at all times, put them in their bosoms, and throw them at each other, as children do apples and balls, during which

sport the serpents are seldom irritated to bite, and if they do, no mischief ensues from the wound. The Arabs of the same country, he also observes, have not by nature this protective power, but generally acquire it, by the use of certain plants. The artificial means of rendering the person invulnerable to the bite of snakes, seems also to be practised in South America.

It is said that the cobra is fond of milk, and that a knowledge of this fact has sometimes saved the lives of persons who were on the point of being bitten. An anecdote is related of a party of gentlemen sitting at table in India, when one of them felt a cobra coiling itself round his leg. Appalled at his situation, he desired his companions, in a whisper, not to speak or make any noise, if they would save his life. All were immediately silent. He next, in a low tone, requested a servant to bring a jug of milk, and pour it cautiously on the floor, near his foot. This being done, the cobra in a short time uncoiled itself, and descended to partake of the milk, when, as may be supposed, little ceremony was used in despatching it. An exemption from reptiles of this deadly class is surely one of England's greatest blessings.

CHAMBERS.

THE EVENING CLOUD.

A cloud lay cradled near the setting sun,
A gleam of crimson tinged its braided snow:
Long had I watched the glory moving on
O'er the still radiance of the lake below.
Tranquil its spirit seem'd, and floated slow!
Even in its very motion there was rest:
While every breath of eve that chanced to blow,
Wafted the traveller to the beauteous West.

B

Emblem, methought, of the departed soul!
 To whose white robe the gleam of bliss is given;
 And by the breath of mercy made to roll
 Right onwards to the golden gates of Heaven,
 Where, to the eye of faith, it peaceful lies,
 And tells to man his glorious destinies. WILSON.

THE SKY-LARK.

Bird of the wilderness,
 Blythesome and cumberless,
 Sweet be thy matin o'er moorland and lea!
 Emblem of happiness,
 Blest is thy dwelling-place—
 O to abide in the desert with thee!
 Wild is thy lay and loud
 Far in the downy cloud,
 Love gives it energy, love gave it birth.
 Where, on thy dewy wing,
 Where art thou journeying?
 Thy lay is in heaven, thy love is on earth.

O'er fell and fountain sheen,
 O'er moor and mountain green,
 O'er the red streamer that heralds the day,
 Over the cloudlet dim,
 Over the rainbow's rim,
 Musical cherub, soar, singing, away!
 Then, when the gloaming comes,
 Low in the heather blooms
 Sweet will thy welcome and bed of love be!
 Emblem of happiness,
 Blest is thy dwelling-place—
 O to abide in the desert with thee! HOGG.

THANKFULNESS.

My God, I thank Thee who hast made
The Earth so bright ;
So full of splendour and of joy,
Beauty and light ;
So many glorious things are here,
Noble and right !

I thank Thee, too, that Thou hast made
Joy to abound ;
So many gentle thoughts and deeds
Circling us round,
That in the darkest spot of Earth
Some love is found.

I thank Thee *more* that all our joy
Is touched with pain ;
That shadows fall on brightest hours ;
That thorns remain ;
So that Earth's bliss may be our guide,
And not our chain.

For Thou who knowest, Lord, how soon
Our weak heart clings,
Hast given us joys, tender and true,
Yet all with wings,
So that we see, gleaming on high,
Diviner things !

I thank Thee, Lord, that Thou hast kept
The best in store ;
We have enough, yet not too much
To long for more ;
A yearning for a deeper peace,
Not known before.

I thank Thee, Lord, that here our souls,
Though amply blest,
Can never find, although they seek,
A perfect rest—
Nor ever shall, until they lean
On Jesus' breast !

P'ROCTER.

EMPLOYMENT OF TIME.

"Time," said Mr Howard, "must be employed either in doing what is useful, or what is not : for the time that is not usefully is uselessly employed ; and all the time employed uselessly is employed badly. Did time ever hang heavy on your hands ? If it did, you have much to learn in order to be happy : for the wise man and the happy man have no idle time. Time is the material out of which pleasure is made : and he who makes most pleasures out of it, is the man who employs it best.

"What are you thinking about ?" added Mr Howard, who observed that Arthur seemed anxious to speak.

"Nothing, papa," said Arthur. "Oh, yes ! I was thinking that, if I had nothing to do but to look about for pleasures, I should be a very happy fellow."

"Well, then, and how would you employ yourself, Arthur ?"

"In the first place, I would have plenty of holidays, and plenty of sport."

"And plenty of vexation, Arthur, from not having learnt as much as other boys of your age."

"But I would buy myself all sorts of delicacies."

"And buy sickness and headaches with them," said his father.

So Arthur was a little abashed, and began to blush, and said, "I was too hasty, papa ; and before I run away after pleasures, I will think a little more about it."

And Edith said, "I fancy I understand you, papa. Nobody can be happy unless he is pleased at something, but it is not every pleasure that makes happiness."

"That is my meaning! Happiness is made up of pleasures; but the best of pleasures are those which do not bring any pains after them. It would be a bad bargain if you were to borrow a penny to-day and have to pay a shilling to-morrow for the loan of it. Yet that is exactly what people do who never think of the consequences of a pleasure. Do you recollect, when you were a little girl, how you ate the twelfth-cake in excess, and how you suffered for it—and took disagreeable medicine,—and felt so wretched, and made us all so uncomfortable about you? When you ate the cake, it was the pennyworth of pleasure, for which you were obliged to pay a shilling's worth of pain."

"I remember it well, papa: and I won't make so foolish a mistake again."

"But I was going to show you how much happiness, or how many pleasures rather, of which happiness is made, depend upon the judicious use of time. Time is our great treasure, and should be dealt with as a treasure:

‘Part with it, as with money, sparing; pay
No moment, but in purchase of its worth.’

Except when you are suffering bodily or mental pain, there is no moment that you may not make useful or pleasurable."

"But tell us how, papa!" the children all demanded.

"By employing it well. When you are not otherwise engaged, employ your time in happy thoughts: everybody has time for thought; and as the mind is scarcely ever at rest, one great secret towards being happy is to have the thoughts occupied with pleasing objects. Plans for acquiring knowledge—plans for giving knowledge to others—plans for innocent amusement—plans for doing good. You

may not be able to execute all that you plan; but your thoughts, at all events, will be a source of much pleasure to you.

“A writer has said, ‘There are two gates into the mind: through one misery enters—through the other enjoyment. Keep the gate of misery shut—the gate of enjoyment open. Thoughts will come knocking at the gate where misery enters: do not let them in, if you can shut them out. When thoughts come to the gate of enjoyment give them welcome.’”

“In disposing of your time, and when you have made the best of it in useful employment, much will remain to be filled up. There are no engagements so constant as not to leave unoccupied moments: and many engagements merely employ our hands or our feet without employing our mind. Do not let painful thoughts intrude upon such moments; do not call back the recollection of sufferings that are passed; do not indulge in vain regrets or useless self-reproaches; do not be fancying coming evils; but, instead of all these, crowd your mind with thoughts of good: look out for what is bright and beautiful. Waste no time that you can engage in the pursuit of some future comfort. Think of any way of relieving human misery: think of any way of increasing human felicity. You may do this in the moments that would otherwise be lost; and nothing can be more important to your happiness than that you should feel the value of that time which slips away unemployed, or at least unimproved by those who have not learnt its importance.

“‘Take care of the moments, and the hours will take care of themselves.’ You cannot employ short periods wisely without the wise employment of long ones.”

BOWRING.

THE SILK-WORM.

IN surveying the works of nature—in admiring their beauty, their order, their seasons, and the thousand attractions they possess, I sometimes think that the Divine Author of our religion viewed them with corresponding feelings; and this reflection always affords me pleasure. He selected a garden, having a brook in it, as a place of frequent resort; and, in a beautiful passage, we find Him telling us to “consider the lilies of the field, how they grow—they toil not,” He says, “neither do they spin, and yet Solomon in all his glory was not arrayed like one of these.” He reminds us how securely we may trust to his care and love: “behold the fowls of the air, which neither sow, nor reap, nor gather into barns; and yet your heavenly Father feedeth them.” Again, He tells us, “that we are his sheep, and that He is our shepherd;” and at another time He illustrates his kindness and compassion by referring to the care and protection afforded by a hen to her chickens; and further assures us, that not even a sparrow falleth to the ground without the knowledge of our beneficent Creator. These, and other illustrations of our Saviour’s precepts, were taken from objects of nature, which probably were immediately around Him.

Throughout the whole of the New Testament, the images taken from nature leave a stronger impression on the mind than almost any others. And sure I am that the close contemplation of those which assure us of the ever-wakeful care and kindness of our Maker will bring with them a peaceful serenity of mind, which would be envied, if it could be justly appreciated, by persons who have hitherto thought but little on the subject.

I was occupied, the other day, in reflecting on the benefits accruing to mankind from a remarkable instinct impressed by the great Creator on that insignificant insect the

silk-worm. What warmth and comfort does it afford to us ! How useful, convenient, and elegant, is the clothing we derive from it ! But this is not all. Let us, for one moment, consider how many thousands of persons are indebted to it for almost their very existence, in consequence of the employment it affords to man in nearly every country of the known world.

There is, however, another striking and interesting peculiarity attending the silk-worm. It is this ; that while the caterpillars of all the other tribes of moths and butterflies when they have arrived at a certain state of maturity, show a restless disposition, and wander about and hide themselves in a variety of places in order to spin their cocoons, preparatory to their making escape as moths, &c., the caterpillar of the silk-worm, on the contrary, is content to remain stationary in the open tray, or box, in which it may be placed. After consuming its immediate supply of mulberry leaves, it waits for a further quantity ; and, when the period arrives for spinning its cocoon, instead of showing any migratory disposition, it seems to place itself with confidence under the care of man to provide it with a suitable place for its convenience and protection. In the fly or moth state, the female is quite incapable of flight ; and the male, although of a much lighter make, and more active, can fly but very imperfectly. This latter circumstance insures to us the eggs for the following season, thus completing the adaptation of the insect in its different stages to the purposes it is destined to fulfil for our advantage. To my mind this striking peculiarity in the habits of the silk-worm beautifully illustrates the care and kindness of the Almighty, in thus making an apparently insignificant insect the means of so many important benefits to man.

In the case of the common moths and butterflies, their migratory disposition is not without its use, though we may not so immediately profit by it. The caterpillars hide

themselves in a variety of places, and, when in the pupa state, furnish food for our soft-billed birds during the winter, who search for and feed upon them. Without such a resource many of them must perish during a severe frost. Numerous insects also lay their eggs in living caterpillars, who die before they change into pupæ; so that the very existence of some insects is perpetuated by the destruction of others.

In noticing these facts, it is impossible to withhold that admiration which the ways of Providence in the works of the creation claim from every one by whom they are properly contemplated. Trifling as the relation may appear to some persons, it ought to carry the conviction with it, that we are under the care and guidance of an all-wise and bountiful Creator. Happy shall we be if this instructive lesson is not lost upon us.

JESSE.

THE SQUIRE'S PEW.

A SLANTING ray of evening light
Shoots through the yellow pane ;
It makes the faded crimson bright,
And gilds the fringe again ;
The window's Gothic framework falls
In oblique shadows on the walls.

And since those trappings first were new,
How many a cloudless day,
To rob the velvet of its hue,
Has come and passed away ;
How many a setting sun hath made
That curious lattice-work of shade.

Crumbled beneath the hillock green
The cunning hand must be,

That carved this fretted door, I ween,
 Acorn, and fleur-de-lis ;
And now the worm hath done her part
In mimicking the chisel's art.

In days of yore (as now we call),
 When the first James was king,
The courtly knight from yonder hall
 His train did hither bring,
All seated round, in order due,
With broidered suit and buckled shoe.

On damask cushions decked with fringe
 All reverently they knelt ;
Prayer-books with brazen hasp and hinge,
 In ancient English spelt,
Each holding in a lily hand
Responsive to the priest's command.

Now, streaming down the vaulted aisle,
 The sunbeam, long and lone,
Illumes the characters a while,
 Of their inscription stone ;
And there, in marble hard and cold,
The knight with all his train behold.

Outstretched together are exprest
 He and my lady fair,
With hands uplifted on the breast,
 In attitude of prayer ;
Long-visaged, clad in armour, he—
With ruffled arm and boddice she.

Set forth in order as they died,
 Their numerous offspring bend,
Devoutly kneeling side by side,
 As if they did intend
For past omissions to atone,
By saying endless prayers in stone.

Those mellow days are past and dim,
But generations new,
In regular descent from him,
Have filled the stately pew,—
And in the same succession go
To occupy the vaults below.

And now the polished modern squire,
And his gay train appear,
Who duly to the hall retire,
A season every year ;
And fill the seats with belle and beau,
As 'twas so many years ago.

Perchance, all thoughtless as they tread
The hollow-sounding floor
Of that dark house of kindred dead,
Which shall, as heretofore,
In turn receive to silent rest
Another and another guest :

The feathered hearse and sable train,
In all their wonted state,
Shall wind along the village lane,
And stand before the gate ;
Brought many a distant county through,
To join the final rendezvous.

And when the race is swept away,
All to their dusty beds,
Still shall the mellow evening ray
Shine gaily o'er their heads ;
While other faces, fresh and new,
Shall fill the squire's deserted pew !

JANE TAYLOR.

THINGS WE KNOW ABOUT THE EARTH.

FIRST of all, we know that it is round. God had said so in his Word, but since then the science of man has succeeded in ascertaining it surely; for hundreds of ships go round it every year; thousands of navigators sailing, for example, from Europe on the left, and going always towards the setting sun without ever returning, after long months and years of sailing, end by finding themselves brought back again, at last, by the right, to the very regions from which they had sailed.

Secondly, it has been ascertained that our earth moves every year in an immense circle about the sun, while itself rolls round every twenty-four hours, as a ball would do. It even rotates so quickly, that at the equator it makes more than seventeen miles a minute, or above a thousand in an hour, and while it is thus rotating it goes at the same time round the sun with a rapidity of twenty miles a moment. What wonder would you feel if you were placed five hundred miles from the earth and could see it pass before your eyes as it rushes through the depths of space with a speed sixty times as great as that of a cannon-ball leaving the cannon-mouth!

Thirdly, the size of the earth has been measured; it is twenty-five thousand miles in circumference, and nearly eight thousand miles in diameter. You will be better able to judge of this size, when I tell you that it has been calculated that Mont Blanc, the highest mountain in Europe, is scarcely anything more on the globe of the earth than the thickness of one of your hairs is on your head, or than a grain of sand would be on a house twenty feet high. You can judge of it again by another calculation. Suppose that some one wished you to take a rapid survey of the whole earth, and that, with this design, he were to place you for an hour on the top of a hill from

which your view extended forty miles on every side. It would certainly be a vast landscape, and an hour would be very little time to become acquainted with it, since it comprehends sixteen hundred square miles ; but after all, that space, notwithstanding its extent, would be only the forty-thousandth part of the surface of the earth. Suppose then, that from hour to hour you were transported to some new scene of the same extent, devoting twelve hours a day to this work, how long do you think you would take to complete the survey of the globe at this rate? Not less than nine years and forty-eight hours.

Lastly (and you know that the Bible told us so long before men could be certain of it by science), this earth, though covered over by a solid crust, is all on fire in its interior. It is a glowing mass of melted and incombustible metals, burning gases, and boiling lavas. The Bible expressly said so three thousand years ago, in the twenty-eighth chapter of Job ; it spoke frequently, besides, of mountains melted as wax, leaping as sheep, and carried from the depths of the earth by the heat of fire ; but the science of man had not ascertained these great facts till this last century. I have told you that the solid layer which covers this fire appears not to be thicker than ten or twelve miles. Whenever this crust splits there goes out from it lava, fires, cleft rocks, impetuous gases, ashes enough to bury whole towns ; and even now, from time to time, the earth has been seen to tremble and gape, and mountains to rise in a single day.

The Bible also told us thirty-three centuries ago what learned men have only in these last days discovered, namely, that the highest mountains of the earth (M^{ont} Blanc, for example, and nearly all the high Alps) were formed, long after the creation of the world, by the agitations which this powerful fire effects. This is also the reason why, when springs are very deep, they always bring hot waters to the surface of the earth, where, you know,

sick persons often go to try to be cured. It has been ascertained that for every hundred feet that you pierce down into the earth, the temperature increases a degree of the thermometer, so that if you were to dig down a mile and a half you would find only boiling water, and ten miles down only melted rock.

Such, then, is the state of the planet on which we are, and you have not forgotten that the Bible declares how at the last day the earth will perish by this internal fire, and how it will then be burned and all that is in it.

GAUSSEN.

SURRENDER OF CALAIS TO EDWARD III.

THE town of Calais had been defended with remarkable vigilance, constancy, and bravery, by the townsmen, during a siege of unusual length. Philip, the French king, informed of their distressed condition, determined, at last, to attempt their relief; and he approached the English with an immense army, which the writers of that age make amount to two hundred thousand men: but he found Edward so surrounded with morasses, and secured by intrenchments, that, without rushing on inevitable destruction, he concluded it impossible to make an attempt on the English camp. He had no other resource than to send his rival a vain challenge to meet him in the open field; which being refused, he was obliged to decamp with his army, and disperse them into their several provinces.

John de Vienne, the governor of Calais, now saw the necessity of surrendering his fortress, which was reduced to the last extremity by famine and the fatigue of the inhabitants. He appeared on the walls, and made a signal to the English sentinels, that he desired a conference. Sir Walter Manny was sent to him by Edward. "Brave

knight," cried the governor, "I have been intrusted by my sovereign with the command of this town. It is almost a year since you besieged me ; and I have endeavoured, as well as those under me, to do our duty. But you are acquainted with our present situation. We have no hopes of relief. We are perishing with hunger. I am willing, therefore, to surrender ; and desire, as the sole condition, to ensure the lives and liberties of those brave men who have so long shared with me every danger and fatigue."

Manny replied, that he was well acquainted with the king of England's intentions : that the prince was incensed against the townsmen of Calais for their obstinate resistance, and for the evils which they had made him and his subjects suffer ; that he was determined to take exemplary vengeance on them ; and would not receive the town on any condition which should confine him in the punishment of these offenders. "Consider," replied Vienne, "that this is not the treatment to which brave men are entitled. If an English knight had been in my situation, your king would have expected the same conduct from him. The inhabitants of Calais have done for their sovereign what merits the esteem of every prince ; much more of so gallant a prince as Edward. But I must inform you, that, if we must perish, we shall not perish unrevenged : and that we are not yet so reduced but we can sell our lives at a high price to the victors. It is the interest of both sides to prevent these desperate extremities ; and I expect, that you yourself, brave knight, will interpose your good offices with your prince in our behalf."

Manny was struck with the justness of these sentiments, and represented to the king the danger of reprisals, if he should give such treatment to the inhabitants of Calais. Edward was at last persuaded to mitigate the rigour of the conditions demanded : he only insisted that six of the most considerable citizens should be sent to

him, to be disposed of as he thought proper ;—that they should come to his camp, carrying the keys of the city in their hands, bareheaded and barefooted, with ropes about their necks ; and, on these terms, he promised to spare the lives of the remainder.

When this intelligence was conveyed to Calais, it struck the inhabitants with new consternation. To sacrifice six of their fellow-citizens to certain destruction, who had signalized their valour in a common cause, appeared to them even more severe than that general punishment with which they were before threatened ; and they found themselves incapable of coming to any resolution. At last, one of the principal inhabitants, called Eustace de St Pierre, whose name deserves to be recorded, stepped forth, and declared himself willing to encounter death, for the safety of his friends and companions. Another, animated by his example, made a like generous offer. A third, and a fourth, presented themselves to the same fate ; and the whole number required was soon completed. These six heroic burgesses appeared before Edward in the guise of malefactors, laid at his feet the keys of the city, and were ordered to be led to execution. It is surprising that so generous a prince should have entertained such a barbarous purpose against such men ; and still more that he should seriously persist in the resolution of executing it. But the entreaties of his queen saved his memory from that infamy. She threw herself on her knees before him ; and with tears in her eyes begged the lives of these citizens. Having obtained her request, she carried them into her tent, ordered a repast to be set before them ; and, after making them a present, dismissed them in safety.

HUME.

ORDER OF PROVIDENCE.

ANIMALS which prowl, or move about much in the dark, are furnished with projecting hairs or whiskers from the upper lips, which guide them in their passage through holes or narrow openings in hedges. These hairs serve as *feelers*, and are of such a length, that the body of the animal will pass through any opening which these projecting hairs just touch on either side. They are very sensitive, and if they are ever so slightly touched while the animal sleeps, it is instantly aware of it. Hares very often make their runs or mews between two strong upright sticks in a hedge which will just allow them to pass through, without being sufficiently large to admit the passage of a dog, should it be in pursuit. This is a very extraordinary instinct, and shows a great foresight of danger. In passing through such a passage at night, these *feelers* must be of great service to the animal, who without them would probably run against objects which might injure it. Horses have these strong hairs both on the upper and lower lips, but with them they are designed for another use; probably that of keeping flies and insects from annoying them by getting into their nostrils while they are grazing. They are sufficiently close together for that purpose; and, moving as they do while the horse is feeding, serve to brush away anything offensive.

Some animals are not furnished in this manner, but then they have some other means of protection from a similar annoyance. The elephant, for instance, has a sort of valve placed at the extremity of his proboscis, which he carefully closes when he is not using it, to prevent anything getting up his trunk which might injure him. His eyes are small; but, if they were in proportion to his size, he could not, with his peculiar formation, protect them so readily from injury in countries where

insects are very formidable. He is, however, furnished with large pendent ears, which serve him as *flappers* to protect his head from flies. Indeed, there are few, if any, animals which are not provided with sufficient means to guard themselves from injuries from those creatures who may annoy but do not prey upon them. They have also some instinctive or actual properties which enable them in some degree to secure themselves against the attacks of stronger animals, who, in their turn, in order to obtain their food, are obliged to use great watchfulness as well as strength. We see this in every gradation in the animal world, and it is a striking instance of that order in nature which serves to keep up a due proportion of each created thing, without suffering any one species to be exterminated. This would be the case if too much facility were afforded to predatory animals of securing the weaker ones whenever they pleased. A lion or a tiger has to wait long in ambush, and to exert much patience and watchfulness, before it can find an opportunity of springing upon its prey. This is the case with the cat, fox, and some other animals, and occurs also amongst amphibia, and even insects. What is wanting in swiftness is made up in cunning; so that, in some cases, even a semblance of death is put on for the purpose of securing food more readily.

I have entered into these remarks, because I have always considered the subject worthy of attention. How much would our actual enjoyment and comforts in this world be diminished if any one of the various species of quadrupeds, birds, or insects, which we see about us, were suffered to increase in too great a proportion! We can hardly form a calculation of the greatness of the evil either to ourselves or to other created beings. At present, however, everything is most beautifully ordered and arranged, and no one species predominates disadvantageously over another. Those which are most useful to man multiply

in a much greater proportion than others which are noxious. But even the latter have their appointed use, and in the hands of a superintending Deity are made instruments of good. To a contemplative mind it is often a fearful consideration to reflect on the various modes of existence, and the different bodies wherein it has pleased God to cause life to dwell : many of which are subjected to great sufferings, and especially from one part of the creation preying upon another. What, however, many have brought forward as an argument of the want of mercy and justice in the Almighty is, on the contrary, a proof of his goodness and benevolence.

The means which Nature takes to secure every race from becoming extinct, is to produce them in superabundance. The only way, therefore, of preventing them from overrunning the earth, is to produce enemies who shall prey upon and keep them within due limits. These different races, unless they were killed by their enemies, would increase beyond the supply of their food, so that the ordinary course of death amongst them would be the most painful one that can be imagined, namely, starvation. The real effect, therefore, of what may appear a disorder and cruelty in nature, is, in point of fact, mercy ; as the individuals are taken off by a sudden death in the height of their vigour, instead of being subject to a lingering and protracted one, which a want of food must have occasioned.

“How admirable are the works of God ! how excellent the operations of his hands !

“I considered plants and animals ; four-footed beasts, and creeping things ;

“In all was manifested infinite wisdom, and an excellent workmanship that I could not comprehend.

“Yet so much was made known unto me, as declared the power and goodness of God ; and the continued agency of the Great Creator, and Lord of all things.

“Wherefore have we eyes to see? and hearts that we may know and understand?

“O Lord, make me to contemplate thy glorious works : and that which I know not, teach thou me !”

It has been justly remarked that there is nothing done by men worthy of commendation, but God has imprinted some imitation of it even in brutes and insects. We see this in various instances. Beavers are not only an example of great industry, but the manner in which they perform their operations in making their dams or embankments according to existing circumstances, in a way which one would almost have thought mere instinct could not have taught them, proves them to be possessed of a faculty which might be considered as only belonging to man. If we want instances of fidelity, attachment, and sagacity, we have them in the dog; and all that we know of the elephant proves him to be capable of imitating some of the best faculties which are found in rational beings. His trunk serves him instead of a hand, and with that member, added to the great share of sense and docility with which he is endowed, he is capable of performing various actions, which man, in a state of ignorance and barbarism, would not have attempted. If we want to see beautiful architecture, we should watch the operations of the bee, and other insects; and the weaver might take a lesson from the web of a spider.

JESSE.

MY TIMES ARE IN THY HAND.

“My times are in Thy hand.”—PSALM xxxi. 15.

FATHER, I know that all my life
Is portioned out for me,
And the changes that are sure to come,
I do not fear to see;

But I ask Thee for a present mind
Intent on pleasing Thee.

I ask Thee for a thoughtful love,
Through constant watching wise,
To meet the glad with joyful smiles,
And to wipe the weeping eyes ;
And a heart at leisure from itself,
To soothe and sympathize.

I would not have the restless will
That hurries to and fro,
Seeking for some great thing to do,
Or secret thing to know ;
I would be treated as a child,
And guided where I go.

Wherever in the world I am,
In whatso'er estate,
I have a fellowship with hearts
To keep and cultivate ;
And a work of lowly love to do
For the Lord on whom I wait.

So I ask Thee for the daily strength,
To none that ask denied,
And a mind to blend with outward life
While keeping at Thy side ;
Content to fill a little space,
If Thou be glorified.

And if some things I do not ask,
In my cup of blessing be,
I would have my spirit filled the more
With grateful love to Thee—
More careful—not to serve Thee much,
But to please Thee perfectly.

There are briers besetting every path,
That call for patient care ;
There is a cross in every lot,
And an earnest need for prayer ;
But a lowly heart that leans on Thee
Is happy anywhere. WARING.

THE GORILLA.

THE equatorial coast of Africa has recently yielded to European science a gigantic kind of man-like ape, which affords a curious confirmation of an old classic story. Somewhere about the sixth century before the Christian era, one Hanno is reported to have sailed from Carthage, through the Pillars of Hercules, on a voyage of exploration along the coast of Africa. In the record of this voyage there occurs the following passage :—"Passing the Streams of Fire, we came to a bay called the Horn of the South. In the recess there was an island like the first, having a lake, and in this there was another island full of wild men. But much the greater part of them were women, whom the interpreters called 'Gorillas.' But pursuing them, we were not able to take the men ; they all escaped, being able to climb the precipices ; and defended themselves with pieces of rock. But three women, who bit and scratched those who led them, were not willing to follow. However, having killed them, we flayed them, and conveyed the skins to Carthage ; for we did not sail any further, as provisions began to fail."

The "wild men" of the ancient navigator were doubtless identical with the great anthropoid ape lately re-discovered, to which, in allusion to the old story, the name of Gorilla has been given. The region in question is a richly wooded country, extending about a thousand miles along the coast from the Gulf of Guinea southward ; and as the

gorilla is not found beyond these limits, so we may pretty conclusively infer that the extreme point of Hanno was somewhere in this region.

This great ape makes the nearest approach of any brute-animal to the human form; it is fully equal to man in stature, but immensely more broad and muscular; while its strength is colossal. Though exclusively a fruit-eater, it is described as always manifesting an enraged enmity towards man; and no negro, even if furnished with fire-arms, will willingly enter into conflict with an adult male gorilla. He is said to be more than a match for the lion.

The rivalry between the mighty ape and the elephant is curious, and leads to somewhat comic results. The old male is always armed with a stout stick when on the scout, and knows how to use it. The elephant has no intentional evil thoughts towards the gorilla, but unfortunately they love the same sorts of fruit. When the ape sees the elephant busy with his trunk among the twigs, he instantly regards it as an infraction of the laws of property; and, dropping quietly down to the bough, he suddenly brings his club smartly down on the sensitive finger of the elephant's proboscis, and drives off the alarmed animal trumpeting shrilly with rage and pain.

There must be something very wild and unearthly in the appearance of one of these apes, so demon-like in hideousness, in the solemn recesses of the dark primeval forest. The terrors with which it is invested are, however, more than imaginary. The young athletic negroes, in their ivory hunts, well know the prowess of the gorilla. He does not, like the lion, sullenly retreat on seeing them, but swings himself rapidly down to the lower branches, courting the conflict, and clutches at the foremost of his enemies. The hideous aspect of his visage, his green eyes flashing with rage, is heightened by the thick and prominent brows being drawn spasmodically up and down, with the hair erect, causing a horrible and fiendish scowl. Weapons are

torn from their possessors' grasp, gun-barrels bent and crushed in by the powerful hands and vice-like teeth of the enraged brute. More horrid still, however, is the sudden and unexpected fate which is often inflicted by him. Two negroes will be walking through one of the woodland paths, unsuspecting of evil, when in an instant one misses his companion, or turns to see him drawn up in the air with a convulsed choking cry; and in a few minutes dropped to the ground a strangled corpse. The terrified survivor gazes up, and meets the grin and glare of the fiendish giant, who, watching his opportunity, had suddenly put down his immense hind-hand, caught the wretch by the neck with resistless power, and dropped him only when he ceased to struggle. GOSSE.

A JAPANESE CONJUROR.

"OUR Japanese merlin was seated cross-legged about ten yards from us, upon the raised platform of the floor of the apartment; behind him was a gold-coloured screen, with a painting of the peak of Fuoi-hama, in blue and white upon its glittering ground. He threw up the sleeves of his dress, and showed a piece of some tissue paper, which he held in his hand. It was about six inches square, and, by dexterous and delicate manipulation, he formed it into a very good imitation of a butterfly, the wings being extended, and at the most each was one inch across. Holding the butterfly out in the palm of his hand, to shew what it was, he placed two candles, which were beside him, in such a position as to allow him to wave a fan rapidly without affecting the flame, and then, by a gentle motion of this fan over the paper insect, he proceeded to set it in motion. A counter draught of air from some quarter interfered with his efforts, and made the butterfly truant to

his will, and the screen had to be moved a little to remedy this. He then threw the paper butterfly up in the air, and gradually it seemed to acquire life from the action of his fan—now wheeling and dipping towards it, now tripping along its edge, then hovering over it, as we may see a butterfly do over a flower in a fine summer's day, then in wantonness wheeling away and again returning to alight, the wings quivering with nervous restlessness: one could have sworn it was a live creature. Now it flew off to the light, and then the conjuror recalled it, and presently supplied a mate in the shape of another butterfly, and together they rose and played about the old man's fan, varying their attentions between flirting with one another and fluttering along the edge of the fan. We repeatedly saw one on each side of it as he held it nearly vertically, and gave the fan a short quick motion; then one butterfly would pass over to the other, both would wheel away as if in play, and again return. A plant with some flowers stood in a pot near at hand; by gentle movements of the fan the pretty little creatures were led up to it, and then, their delight! how they played about the leaves, sipped the flowers, kissed each other, and whisked off again with all the airs and graces of real butterflies! The audience was in ecstasies, and young and old clapped their hands with delight. The exhibition ended, when the old man advanced to the front of his stage, within arm's length of us all, accompanied by his magic butterflies, that even in the open air continued to play round the magician and his fan. As a feat of legerdemain, it was by far the most beautiful trick we had ever heard of, and one that must require an immense amount of practice."

OSBORN.

THE ATMOSPHERE.

AN Eastern Philosopher, describes the Atmosphere as "a spherical shell which surrounds our planet to a depth which is unknown to us, by reason of its growing tenuity, as it is released from the pressure of its own superincumbent mass. Its upper surface cannot be nearer to us than 50, and can scarcely be more remote than 500, miles. It surrounds us on all sides, yet we see it not ; it presses on us with a load of fifteen pounds on every square inch of surface of our bodies, or from seventy to one hundred tons on us in all, yet we do not so much as feel its weight. Softer than the softest down, more impalpable than the finest gossamer, it leaves the cobweb undisturbed, and scarcely stirs the lightest flower that feeds on the dew it supplies ; yet it bears the fleets of nations on its wings around the world, and crushes the most refractory substances with its weight. When in motion, its force is sufficient to level the most stately forests and stable buildings with the earth—to raise the waters of the ocean into ridges like mountains, and dash the strongest ships to pieces like toys. It warms and cools by turns the earth and the living creatures that inhabit it. It draws up vapours from the sea and land, retains them dissolved in itself or suspended in cisterns of clouds, and throws them down again as rain or dew when they are required. It bends the rays of the sun from their path to give us the twilight of evening and of dawn ; it disperses and refracts their various tints to beautify the approach and the retreat of the orb of day. But for the atmosphere sunshine would burst on us and fail us at once, and at once remove us from midnight darkness to the blaze of noon. We should have no twilight to soften and beautify the landscape ; no clouds to shade us from the searching heat ; but the bald earth, as it revolved on its axis, would turn its tanned and weakened front to the full and unmitigated

rays of the lord of day. It affords the gas which vivifies and warms our frames, and receives into itself that which has been polluted by use and is thrown off as noxious. It feeds the flames of life exactly as it does that of the fire—it is in both cases consumed and affords the food of consumption—in both cases it becomes combined with charcoal, which requires it for combustion and is removed by it when this is over.”

HAVELOCK.

HE is gone. Heaven's will is best:
Indian turf o'erlies his breast.
Ghoul in black, nor fool in gold
Laid him in yon hallowed mould.
Guarded to a soldier's grave
By the bravest of the brave,
He hath gained a nobler tomb
Than in old cathedral gloom.
Nobler mourners paid the rite
Than the crowd that craves a sight,
England's banners o'er him waved—
Dead, he keeps the realm he saved.
Strew not on the hero's hearse
Garlands of a herald's verse:
Let us hear no words of Fame
Sounding loud a deathless name:
Tell us of no vauntful glory
Shouting forth her haughty story,
All life long his homage rose
To far other shrines than those.
“In *For Signs*,” pale nor dim,
Lit the battle-field for him,
And the prize he sought and won,
Was the crown for duty done.

METAMORPHOSES OF INSECTS.

THAT butterfly which amuses you with its aërial excursions, one while extracting nectar from the tube of the honey-suckle, and then, the very image of fickleness, flying to a rose as if to contrast the hue of its wings with that of the flower on which it reposes, did not come into the world as you now behold it. At its first exclusion from the egg, and for some months of its existence afterwards, it was a worm-like caterpillar, crawling upon sixteen short legs, greedily devouring leaves with two jaws, and seeing by means of twelve eyes, so minute as to be nearly imperceptible, without the aid of a microscope. You now view it furnished with wings capable of rapid and extensive flights: of its sixteen feet ten have disappeared, and the remaining six are in most respects wholly unlike those to which they have succeeded: its jaws have vanished, and are replaced by a curled-up proboscis suited only for sipping liquid sweets; the form of its head is entirely changed,—two long horns project from its upper surface; and instead of twelve invisible eyes, you behold two, very large, and composed of at least seventeen thousand convex lenses, each supposed to be a distinct and effective eye!

Almost every insect which you see has undergone a transformation as singular and surprising, though varied in many of its circumstances. That active little fly, now an unbidden guest at your table, whose delicate palate selects your choicest viands, one while extending his proboscis to the margin of a drop of wine, and then gaily flying to take a more solid repast from a pear or a peach; now gambolling with his comrades in the air, now gracefully currying his furred wings with his taper feet, was but the other day a disgusting grub, without wings, without legs, without eyes, wallowing, well pleased, in the midst of a mass of putrefaction.

The shapeless maggot, which you scarcely fail to meet

with in some one of every handful of nuts you crack, would not always have grovelled in that humble state. If your unlucky intrusion upon its vaulted dwelling had not left it to perish in the wide world, it would have continued to reside there until its full growth had been attained. Then it would have gnawed itself an opening, and, having entered the earth, and passed a few months in a state of inaction, would at length have emerged an elegant beetle furnished with a slender and very long ebony beak : two wings, and two wing cases, ornamented with yellow bands ; six feet ; and in every respect unlike the worm from which it proceeded.

The states through which insects pass are four : the *egg* ; the *larva* ; the *pupa* ; and the *imago*.

The first of these need not be adverted to. In the *second*, or immediately after the exclusion from the egg, they are soft, without wings, and in shape usually somewhat like worms. This Linné called the *larva* state, and an insect when in it a *larva*, adopting a Latin word signifying a *mask*, because he considered the real insect while under this form to be as it were masked. In the English language we have no common term that applies to the second state of all insects, though we have several for that of different tribes. Thus we call the coloured and often hairy larvæ of butterflies and moths *caterpillars* ; the white and more compact larvæ of flies, many beetles, &c., *grubs* or *maggots*, and the depressed larvæ of many other insects *worms*.

In this period of their life, during which they eat voraciously and cast their skin several times, insects live a shorter or longer period, some only a few days or weeks, others several months or years. They then cease eating ; fix themselves in a secure place ; their skin separates once more and discloses an oblong body, and they have now attained the *third* state of their existence.

From the swathed appearance of most insects in this state,

in which they do not badly resemble in miniature a child trussed up like a mummy in swaddling clothes, Linné has called it the *pupa* state, and an insect when under this form a *pupa*. In this state most insects eat no food; are incapable of locomotion; and if opened, seem filled with a watery fluid, in which no distinct organs can be traced.

After remaining a shorter or longer period, some species only a few hours, others months, others one or more years, in the *pupa* state, the enclosed insect, now become mature in all its parts, bursts the case which enclosed it, quits the *pupa*, and enters upon the fourth and last state.

We now see it furnished with wings, capable of propagation, and often under a form altogether different from those which it has previously borne—a perfect beetle, butterfly, or other insect. This Linné termed the *imago* state, and the animal that had attained to it the *imago*; because, having laid aside its *mask*, and cast off its *swaddling bands*, being no longer disguised or confined, or in any respect imperfect, it is now become a true representative or *image* of its species.

To see a caterpillar crawling upon the earth sustained by the most ordinary kinds of food, which, when it has existed a few weeks or months under this humble form, its appointed work being finished, passes into an intermediate state of seeming death, when it is wound up in a kind of shroud and encased in a coffin, and is most commonly buried under the earth (though sometimes its sepulchre is in the water, and at others in various substances in the air), and after this creature and others of its tribe have remained their destined time in this death-like state, to behold earth, air, and water give up their several prisoners: to survey them, when called by the warmth of the solar beam, they burst from their sepulchres, cast off their ceremonies, from this state of torpid inactivity and come forth, prepared to enjoy a new and more exalted condition of life, in which all their powers are developed, and they are

arrived at the perfection of their nature ;—who that witnesses this interesting scene can help seeing in it a lively representation of man in his threefold state of existence, and more especially of that happy day, when, at the call of the great Sun of Righteousness, “all that are in the graves shall come forth, the sea shall give up her dead, and death being swallowed up of life, the nations of the blessed shall live throughout the ages of eternity !”

KIRKBY.

THE BUTTERFLY'S BIRTH-DAY.

THE shades of night were scarcely fled;
The air was mild, the winds were still;
And slow the slanting sun-beams spread
O'er wood and lawn, o'er heath and hill:

From fleecy clouds of pearly hue
Had dropt a short but balmy shower,
That hung like gems of morning dew
On every tree and every flower:

And from the blackbird's mellow throat
Was pour'd so loud and long a swell,
As echoed with responsive note
From mountain side and shadowy dell.

When bursting forth to life and light,
The offspring of enraptured May,
The BUTTERFLY, on pinions bright,
Launch'd in full splendour on the day.

Trembling with joy awhile she stood,
And felt the sun's enlivening ray;
Drank from the skies the vital flood,
And wondered at her plumage gay!

And balanced oft her broidered wings,
Through fields of air prepared to sail:
Then on her vent'rous journey springs,
And floats along the rising gale.

Go, child of pleasure, range the fields,
Taste all the joys that spring can give,
Partake what bounteous summer yields,
And live whilst yet 'tis thine to live.

And let me trace thy vagrant flight,
Thy moments too of short repose,
And mark thee then with fresh delight
Thy golden pinions ope and close.

But hark! whilst thus I musing stand
Pours on the gale an airy note,
And breathing from a viewless band,
Soft silvery tones around me float!

—They cease—but still a voice I hear,
A whisper'd voice of hope and joy,
Thy hour of rest approaches near,
“Prepare thee, mortal!—thou must die!

“Yet start not!—on thy closing eyes
“Another day shall still unfold,
“A sun of milder radiance rise,
“A happier age of joys untold.

“Shall the poor worm that shocks thy sight,
“The humblest form in nature's train,
“Thus rise in new-born lustre bright,
“And yet the emblem teach in vain?

“Like thee the hapless reptile lived,
“Like thee he toiled, like thee he spun,
“Like thine his closing hour arrived,
“His labour ceased, his web was done.

“And shalt thou, number’d with the dead,

“No happier state of being know?

“And shall no future morrow shed

“On thee a beam of brighter glow?

“Is this the bound of power divine,

“To animate an insect frame?

“Or shall not He who moulded thine

“Wake at His will the vital flame?

“Go, mortal! in thy reptile state,

“Enough to know to thee is given;

“Go, and the joyful truth relate;

“Frail child of earth! high heir of heaven!”

ROSCOE.

THE WORLD OF WATERS.

THE “World of Waters” is an expression often used in no more comprehensive sense than as signifying the Ocean, in contradistinction to the dry land. The waters of the ocean do, indeed, spread over the greater part of the globe, the proportion of sea compared to land being nearly as three to one; but the “World of Waters” embraces much more than the oceanic basins. A moment’s consideration will show that we may include under this name perhaps every portion of the surface of the globe, and certainly every portion which is the abode of living things, whether plants or animals. The “World of Waters” thus becomes co-extensive with the organic world or world of life; for every plant that grows and every animal that breathes is absolutely dependent on water for its life. If the air did not contain water in solution, the vegetable world would quickly become a vast *Hortus Siccus*, and the animal world be converted into a *mummy museum*. Such a state of things would involve the destruction of animated nature,

and this result is averted only through the agency of water.

The Ocean the Fountain of Waters.—The great reservoir of this life-sustaining agent is the ocean, which is at once the fountain whence the waters flow, and the goal to which they return and where they centre. "All the rivers," says the Wise Man, "run into the sea, yet the sea is not full ; unto the place from whence the rivers come, thither they return again." This circulation of the waters is brought about in a very simple manner, by the influence of the sun, alternately raising and lowering the temperature of the air. Under an increased temperature vapour rises rapidly from any exposed surface of water, and is greedily absorbed by the air, in which it is either perfectly dissolved, when it becomes invisible, or is partially condensed in cloud or fog. A cloudless sky is no proof of the absence of watery vapour in the air, for warm air will hold in perfect solution a very considerable weight of vapour. A reduction of the temperature causes the condensation of the vapour, which is returned to the earth as cloud, fog, dew, or rain. The force of gravity compels the condensed water to seek a lower level, it collects in rills, streams, rivers—which in most cases flow towards the ocean, whose vapours have fed them at the source. Thus a circulation, indispensable to the welfare of plants and animals, is maintained over the surface of the globe, either on the earth or through the air.

Salt Water and Fresh.—There is a marked difference, however, between the water which fertilizes the earth and air, and that which remains in the great body of the Ocean. Sea-water, as every one knows, is *salt*, while what falls from the atmosphere, and supplies springs and rivers, is destitute of saltiness, or *fresh*. When evaporation of sea-water takes place, the salts dissolved in the sea do not rise in the vapour, but remain behind ;—and were the process continued a sufficient length of time, and were no fresh water introduced by rivers, the salts would accumulate in

the waters of the ocean to such a degree that they would at last be deposited in a solid form at the bottom. There would take place, on a vast scale, what occurs in the common method of procuring salt from sea-water, in hot countries, where the water is exposed to the sun in shallow pans until nothing remains but a crust of salt. This does not happen to the Ocean, solely because the amount of fresh water which continually returns into it, compensates for what had been withdrawn ; and if there be any deficiency, it is of so small an amount as to cause a change in the constitution of the ocean only in a very extended course of ages. We have no evidence to show that any such change has occurred during the historic period ; but it is reasonable to think that the change which we know, from the fossil remains of an earlier creation, has come over the marine fauna, may have been connected with a change in the constitution of the waters, as well as in the climate of the globe.

The Bottom of the Sea.—The bottom of the sea appears to be as greatly diversified as the surface of the land. Were the bed of the ocean laid bare, we should find mountains of vast height, whose points now are alone known to us, in the islands which stud the face of the great Pacific Ocean. Round many volcanic islands the circling cliffs go sheer down, into an unfathomable abyss ; such would therefore rise like columns, possibly twenty or thirty thousand feet in height. Shoals, deprived of water, would become table-lands, with deep valleys or interminable plains around them. Then should we discover sandy deserts of immense extent ; coral banks mimicking an arborescent vegetation, and every conceivable variety of hill, of crag and of precipice, confusedly hurled together. Not the least remarkable feature in the savage landscape would probably be the pebbly slopes, the beach left high and dry, where water-rounded stones are as nicely sorted into sizes as if they had been passed through a series of riddles.

Depth of the Ocean.—The bottom being thus diversified, it is needless to say that the comparative depth of water in the ocean varies enormously. One of the most remarkable chains of shoals yet discovered extends along the coast of North America for 1400 miles, commencing with the great fishing banks of Newfoundland, and continuing, with little interruption, to the coast of Florida. The water on these banks ranges from 10 to 40 fathoms. The strait that separates them from America is from 100 to 300 fathoms deep, whilst towards the Atlantic their sides go rapidly down beyond ordinary soundings. The North Sea, separating Great Britain from Norway, is in all places extremely shallow, the greatest depth in no place exceeding 140 fathoms. It is shallowest in the southern part, where there is not sufficient depth of water to cover St. Paul's Cathedral. The English Channel slowly deepens towards the Atlantic; east of the Eddystone it is less than 50 fathoms. In the Irish Channel the depth varies from 60 to 80 or 100 fathoms. Off the west coast of Ireland the water deepens much more rapidly, a depth of 300 to 400 fathoms being found in some places at no great distance from the shore. Hence the grandeur of the scenery of that bold coast. It is not merely that the waves of the Atlantic breast it in a long, unbroken line, but the deep water comes so close to the rocks, that the ground-swell of that great submerged valley strikes our island with scarcely diminished force.

The extreme depth of the ocean has yet to be ascertained. Some of the deepest soundings on record were made during the Antarctic voyage, where at one place, in the Atlantic, within the Southern Tropic, 4600 fathoms or 27,600 feet of line were run out without reaching the bottom. Judging from the elevation of the bordering continents, the mean depth of the Atlantic has been roughly calculated at 50,000 feet, and it is supposed that the deepest hollows do not exceed 80,000 feet, or about

15 miles. But such calculations are scarcely better than mere guesses. The Pacific is much shallower, and is full of shoals and islands that reveal to us the existence of a vast, submerged continent, lying dormant, as it were, for a future destiny.

The Waters in Perpetual Motion.—The waters of the sea, whether under the influence of winds, of currents, or of tides, are in perpetual motion. The effect of *winds* is felt chiefly at the surface, the wildest sea-storm probably not influencing the strata of water a hundred feet below. The lower strata obey the force of *currents*, which may be compared to vast oceanic rivers setting continuously or variably in one direction for hundreds of miles, and causing a circulation between the waters of one portion of the ocean and another. But *tides* alternately upheave and depress the whole mass, twice in the twenty-four hours, by a regular oscillation.

Waves raised by the wind in the open sea are rarely more than 20 feet in height from the bottom of the *trough* to the top of the *crest*. The greatest waves known occur off Cape Horn, and in north-westerly gales at the Cape of Good Hope, where they have been estimated at from 30 to 40 feet in perpendicular height, which may be taken as the maximum height of an unbroken sea-wave or swell. It is true that poets and travellers tell us of waves "mountains high;" but we must make allowance for a terrified imagination, and for the natural desire to make the perils we have safely passed, appear impassable to our tarry-at-home friends. Besides the exaggeration due to these causes, another source of error may be found in the movement of the ship, as she rises over the "mountain," or plunges into the "abyss" in her wild career. Where the base varies at every instant it is scarcely possible to estimate the dimensions of the masses that pass under us.

Currents, though to the common observer much less obvious than waves, are developed on a scale infinitely

greater, and are the main agency employed in creating a healthful circulation through the depths of the sea. We call them *upper* or *under* currents according as they carry along the surface waters or move the strata beneath. Some constantly set in one direction, whilst others are reversed at opposite seasons of the year. Several of the upper currents, which depend on particular winds, are of this class. Of the perennial currents the first in importance are two great streams which flow from the polar towards the equatorial regions, and, on the breaking up of winter, bring the melting icebergs, and drift ice, sometimes bearing along an astonished walrus or polar bear into lower latitude, until gradually dissipated in the warmer water; the zoological freight being deposited in some unexpected place, to lie till disturbed by a future geologist. These powerful streams very sensibly influence the climate of the temperate zones. That of Europe would be rendered much more severe did not a contrary surface current bring warmer waters from the south to supply the drain caused by that flowing from the north.

HARVEY.

TRACES OF OCEAN.

WAS it the sound of the distant surf that was in mine ears, or the low moan of the breeze, as it crept through the neighbouring wood? Oh, that hoarse voice of Ocean, never silent since time first began,—where has it not been uttered! There is stillness amid the calm of the arid and rainless desert, where no spring rises and no streamlet flows, and the long caravan plies its weary march amid the blinding glare of the sand, and the red unshaded rays of the fierce sun. But once and again, and yet again, has the roar of Ocean been there. It is *his* sands that the winds heap up; and it is the skeleton remains of his vassals,—shells, and fish, and the stony coral,—that the rocks underneath enclose. There is silence on the tall mountain

peak, with its glittering mantle of snow, where the panting lungs labour to inhale the thin bleak air,—where no insect murmurs and no bird flies,—and where the eye wanders over multitudinous hill-tops that lie far beneath, and vast dark forests that sweep on to the distant horizon, and along long hollow valleys where the great rivers begin. And yet once and again, and yet again, has the roar of Ocean been there. The elegies of his more ancient denizens we find sculptured on the crags, where they jut from beneath the ice into the mist-wreath; and his later beaches, stage beyond stage, terrace the descending slopes. Where has the great destroyer not been,—the devourer of continents,—the blue foaming dragon, whose vocation it is to eat up the land? His ice-floes have alike furrowed the flat steppes of Siberia and the rocky flanks of Schehallion; and his nummulites and fish lie embedded in great stones of the pyramids, hewn in the times of the old Pharaohs, and in rocky folds of Lebanon still untouched by the tool.

MILLER.

THE OCEAN.

ROLL on, thou deep and dark blue Ocean—roll !
Ten thousand fleets sweep over thee in vain ;
Man marks the earth with ruin—his control
Stops with the shore ;—upon the watery plain
The wrecks are all thy deed, nor doth remain
A shadow of man's ravage, save his own,
When, for a moment, like a drop of rain,
He sinks into thy depths with bubbling groan,
Without a grave, unknell'd, uncoffin'd, and unknown.

His steps are not upon thy paths,—thy fields
Are not a spoil for him,—thou dost arise

And shake him from thee ; the vile strength he wields
For earth's destruction thou dost all despise,
Spurning him from thy bosom to the skies,
And send'st him, shivering in thy playful spray
And howling, to his gods, where haply lies
His petty hope in some near port or bay,
And dashest him again to earth :—there let him lay.

The armaments which thunderstrike the walls
Of rock-built cities, bidding nations quake,
And monarchs tremble in their capitals,
The oak leviathans, whose huge ribs make
Their clay creator the vain title take
Of lord of thee, and arbiter of war :
These are thy toys, and, as the snowy flake,
They melt into thy yeast of waves, which mar
Alike the Armada's pride, or spoils of Trafalgar.

Thy shores are empires, changed in all save thee—
Assyria, Greece, Rome, Carthage, what are they ?
Thy waters wasted them while they were free ;
And many a tyrant since ; their shores obey
The stranger, slave, or savage ; their decay
Has dried up realms to deserts : not so thou,
Unchangeable save to thy wild waves' play—
Time writes no wrinkle on thine azure brow—
Such as creation's dawn beheld, thou rollest now.

Thou glorious mirror, where the Almighty's form
Glasses itself in tempests ; in all time,
Calm or convulsed—in breeze, or gale, or storm
Icing the pole, or in the torrid clime
Dark-heaving ;—boundless, endless, and sublime—
The image of Eternity—the throne
Of the Invisible ; even from out thy slime
The monsters of the deep are made ; each zone
Obeys thee ; thou goest forth, dread, fathomless, alone.

And I have loved thee, Ocean ! and my joy
Of youthful sports was on thy breast to be
Borne, like thy bubbles, onward : from a boy
I wanton'd with thy breakers—they to me
Were a delight ; and if the freshening sea
Made them a terror—'twas a pleasing fear,
For I was as it were a child of thee,
And trusted to thy billows far and near,
And laid my hand upon thy mane—as I do here.

BYRON.

DINNER IN THE FIFTEENTH CENTURY.

IN this meal we find the plenty and magnificence of the period mixed with its characteristic rudeness and discomfort. The huge oaken table still filled the central length of the castle hall ; and at the hour of ten in the forenoon it groaned beneath shapeless masses of fresh and salted beef, followed by a succession of courses of fowl and fish, and curiously compounded dishes. The lord of the feast assumed his place on the *dais* (or raised part of the floor), at the head of the board ; the friends and retainers, or holders in fee, were ranged above or below the salt, according to their respective ranks ; and, as the luxury of a fork was still unknown in England, the morsels were conveyed to the mouth with the fingers, while wine, beer, and ale, in goblets of wood or pewter, were handed round by numerous attendants. We may fill up this scanty outline by imagining the hawks of the master and guests standing on perches above their heads, and their hounds lying about on the pavement below. As the dinner generally lasted three hours, occasional pauses must have occurred : to fill up these the minstrels harped and piped, the jesters joked, the tumblers capered, and the jugglers juggled ; or, if a better taste prevailed, some lay of the wars of Pales-

tine, or poetical romance of knight-errantry, resounded over the mingled din, and feasted the mind with something of an intellectual gratification. When we ascend from these every-day exhibitions in the mode of living among the aristocracy to the banquets of the palace, and especially those which were commemorative of important events, we shall find that they were of a similar description, with a greater degree of splendour and bustle. Coarse abundance, whimsical variety, and stately parade still endeavoured to compensate for real discomfort.

WINDSOR.

It is a great delight to me to visit the secluded parts of Windsor Great Park. Here there is that "prodigality of shade" which I delight in, and which is formed by some of the most beautiful beech trees in England. But it is the venerable old pollards which interest me more than anything else in the park. In looking at them my mind is imperceptibly carried back to the many important events which have happened since they first sprung from the earth. I can fancy that our Edwards and Henrys might have ridden under their branches,—that they had been admired by Shakspeare—and that Pope, whose early youth was passed in the neighbourhood, had reposed under their shade. It is impossible to view these "Sires of the Forest" without feeling a mixture of admiration and wonder. The size of some of them is enormous: one beech tree near Sawyer's Lodge, in Windsor Great Park, measures, at six feet from the ground, thirty-six feet round. It is now protected from injury, and Nature seems to be doing her best towards repairing the damage which its exposure to the attacks of man and beast have produced. It must once have been almost hollow, but the vacuum has been nearly filled up. One might almost fancy that

liquid wood, which had afterwards hardened, had been poured into the tree. The twistings and distortions of this huge mass have a curious and striking effect. There is no bark on this extraneous substance, but the surface is smooth, hard, and without any appearance of decay.

There are two magnificent old oaks near Cranbourne Lodge in Windsor Great Park,—one of them is just within the park paling, and about 300 yards from the Lodge, and the other stands at the point of the road leading up to it. The former, at six feet from the ground, measures thirty-eight feet round. An old man who was working near it told me that it was *talked of* in the History of England, but I have not been able to ascertain that any historical facts are connected with it. The venerable appearance of this fine old oak, “his high top bald with dry antiquity,” the size and expanse of its branches—the gnarled and rugged appearance of its portly trunk, and its large projecting roots, fill the mind at once with admiration and astonishment.

The other tree, nearer to Cranbourne Lodge, is thirty-six feet in circumference at four from the ground, and may be considered as almost coeval with the one I have just described. In this tree there are a number of little feathering branches which have been thrown out of the stem. Another old pollard, not far from it, has only one live branch left—a branch which seems to flourish amidst decay. Hollies, thorns, and here and there a stunted hornbeam, are scattered around, and look as if they had been placed there for the purpose of keeping off any unhallowed intruders on the retirement of these venerable patriarchs of the forest.

The most interesting tree, however, at Windsor, is the celebrated Herne's oak.

“There is an old tale goes, that Herne the hunter,
Sometime a keeper here in Windsor forest,
Doth all the winter time, at still midnight,

Walk round about an oak, with great ragg'd horns,
And there he blasts the tree."

It looks the picture of death itself. Not a leaf—not a particle of vitality appears about it. It stretches out its bare and sapless branches, like the skeleton arms of some enormous giant, and is almost fearful in its decay:

————— "there want not many that do fear
In deep of night to walk by this Herne's Oak."

The last acorn, I believe, which was found on Herne's Oak was given to the late Sir David Dundas of Richmond, and was planted by him on his estate in Wales, where it now flourishes, and has a suitable inscription near it.

The fern in the park has a beautiful appearance towards the end of September, and at a little distance looks like furze, or gorse, in full blossom. This yellow tint, which is greatly heightened towards the evening, contrasts finely with the first slight autumnal colouring of the beech trees, whose white trunks and pendent branches add grace to the landscape. The still lighter brown of the dry grass forms another contrast, covered as it sometimes is with a fine herd of deer; while the thorns, blushing with their load of crimson berries, glow with an increase of lustre as the beams of the setting sun rest upon them.

CONFLAGRATION OF A FOREST IN SWEDEN.

WE passed by some extensive tracts of forests consumed by fire, the appearance of which was desolating in the extreme. The beautiful covering of lively green, on which the eye had rested with such pleasure, had disappeared; while around lay scattered in all directions blackened trunks of the withered pines, like fragments of charcoal. Various causes may be said to combine in producing these northern conflagrations; it is not surprising, therefore, that they

should so often occur. It is a general practice with the peasants, when they wish to clear a portion of forest that may have been allotted them, to effect it by burning. This not only saves them the infinite labour of removing the thick underwood, and facilitates the progress of the axe, but is of very beneficial consequence to the land, as the ashes form a highly fertilizing manure. It frequently happens, however, from not using proper precautions, or from beginning the operation of burning when the dry season is too far advanced, that they are unable to confine the fire within the intended limits; and it soon spreads itself over a wide tract of country, carrying with it destruction and ruin.

Sometimes these extensive conflagrations arise from motives of malice or revenge: and an instance was related to me of a peasant, who applied for a portion of forest to clear and cultivate, which is generally granted; but finding his request refused, irritated by the disappointment, he set it on fire. The whole country, for many miles around, was involved in flames; and a considerable length of time elapsed before it could be stopped. Lightning not unfrequently causes these extensive devastations, falling upon the dry branches of a decayed pine, which it sets on fire, and this communicates quickly to the parched moss beneath. A peasant, after smoking, knocks out the ashes of his pipe; for some hours they lie smothering and concealed; by and by the rising breeze fans them into life and flame, and the work of destruction is begun. Running through the moss, as dry and inflammable as tinder, the flame meets with a pine, and quick as lightning ascends it, assisted by the resinous juices of the tree. In this manner it spreads rapidly through the whole forest, which, crackling amid flame and smoke, presents a spectacle terrific and imposing. The distant traveller, ignorant of the cause, sees with astonishment the singular red appearance of the horizon; and should he unfortunately have to pass through

the burning forest, he will find it very difficult to avoid its fury. Surrounded on all sides by falling trees, his path concealed by smoke and flame, he stands bewildered, uncertain whether to advance or retreat. If a breeze arise, the whole forest glows; a thousand loud explosions are heard around; and should the gently refreshing shower descend, a loud hissing is heard, a dense smoke creeps along, and the smothering flames are for the moment repressed, only to burst out afresh with greater fury. The tenants of the forest, driven from their wild haunts, hitherto undisturbed, flee before their irresistible enemy into parts before secure from their attacks; and bears and wolves, forced from their accustomed retreats towards the habitations of man, make desperate attacks upon the cattle of the peasants. Few spectacles can be conceived more fearfully sublime than a conflagration of this kind in uninhabited parts of the North, to one who witnesses from the mountain-top the progress of the flames, and the alteration so quickly made on the smiling face of nature, at the approach of the destroying element.

BROOKE.

ORIGIN OF IRON AND COAL.

THE important uses of coal and iron in administering to the supply of our daily wants, give to every individual amongst us, in almost every moment of our lives, a personal concern, of which but few are conscious, in the geological events of very distant eras. We are all brought into immediate connection with the vegetation that clothed the ancient earth before one-half of its actual surface had yet been formed. The trees of the primeval forests have not, like modern trees, undergone decay, yielding back their elements to the soil and atmosphere by which they had been nourished; but, treasured up in subterranean storehouses, have been transformed into enduring beds of coal,

which in these later ages have become to man the sources of heat, and light, and wealth. My fire now burns with fuel, and my lamp is shining with the light of gas, derived from coal that has been buried for countless ages in the deep and dark recesses of the earth. We prepare our food, and maintain our forges and furnaces, and the power of our steam-engines, with the remains of plants of ancient forms and extinct species, which were swept from the earth ere the formation of the transition strata was completed. Our instruments of cutlery, the tools of our mechanics, and the countless machines which we construct by the infinitely varied application of iron, are derived from ore for the most part coeval with, or more ancient than, the fuel, by the aid of which we reduce it to its metallic state, and apply it to innumerable uses in the economy of human life. Thus, from the wreck of forests that waved upon the surface of the primeval lands, and from ferruginous mud that was lodged at the bottom of the primeval water, we derive our chief supplies of coal and iron—those two fundamental elements of art and industry, which contribute more than any other mineral production of the earth, to increase the riches, and multiply the comforts and ameliorate the condition of mankind.

BUCKLAND.

THE PLAIN OF ESDRAËLON.

THE plain of Esdraëlon stretches in a broken oblong between the mountains of Samaria and those of Galilee, at its widest part a summer day's journey across. The long rocky range which terminates in Carmel severs it from the sandy plain of Sharon on the coast; a low spur from the hills of Galilee shuts it in from the northern plain of Tyre, and on the east it opens out into three great branches, which lie like bays of verdure between the mountains of Gilboa, Little Hermon, and Tabor. The central offshoot of the

three slopes down to the sunken channel of the Jordan, and from the ancient village that stood at its opening, was called the "Valley of Jezreel,"—a name which has come to be applied to the whole plain in its Greek form of "Esdraëlon."

The chief renown of this singular region is derived from its having been the great battle-field of Jewish history. But its fame in this respect is not confined to the times when Israel was a nation. The invading armies that have so often since swept over the sacred plains of Palestine, have fought their decisive battles on that wide area, as within lists fenced off and levelled by the hand of nature. The Roman eagle and the Moslem crescent, the lances of Latin chivalry and the bayonets of Napoleon's grenadiers, have flashed in the Syrian sun-light on these barren slopes. The best blood of the earth's ruling races has drenched many an acre of Esdraëlon like a heavy dew. Nor have many years gone by when the roving Bedouin on the foray might have heard the dull echo of the British guns, that shook the sea-ward wall of Acre, rolling on the wind like a thunder in Carmel.

When covered with its ancient woods, and well watered throughout, it must have been like the great forest-garden of Damascus. On one of its happiest sites, amidst scenes of pastoral sweetness and beauty, stands Jezreel, where the summer-palace of Ahab, amidst its embowering groves and gardens, casts its shadow over the vineyard of Naboth. The smoke of Elijah's sacrifice on Carmel might be seen from its walls, and along the smoking leagues of highway the form of the prophet was seen speeding through the wind and rain before the chariot of Ahab. The royal roads which once traversed the plain, along which war-chariots rattled, and Jehu "drove furiously," have disappeared, and the travellers walk through by-ways. Only a small part of the plain is cultivated, but the returns are prodigious. Wide tracts of the richest corn-land wave

with golden fruitage, side by side with the bright green fields of millet, and an occasional tuft of olive-trees. The slanting palm, like a landmark, shows where, here and there, some mud-walled village lies. "The very weeds are a sign of what, in better hands, the vast plain might become." Nowhere are there seen more luxuriant crops of thistles bristling in tall, deep jungles, and bearing twelve or eighteen splendid heads on a single stem,—

"Glossy purples, which outreddened
All voluptuous garden roses."

After the warm rains of early summer, the virgin soil spends its vigour in a matchless wealth of blossom, and fragrance, and colour. It is sheeted with the mingled blooms of iris, and lily, and asphodel, like a brilliant mosaic, and the small bells of the red anemone, sprinkled like blood-drops among the grass.

The dust and shout of battle, the splendour of princely pageants, the stir and hum of a busy life, have passed away from Esdraëlon, but this glory of the flowers outlives the regal pomp of Solomon. The rocky framework of the wondrous drama of human life and passion that was acted here, remains, when the actors have vanished. And still—as if it were a voice from the old time before us, to remind us of the truth and power of God, here so often displayed—we may hear the low, unceasing murmur of "that ancient river, the river Kishon," as it flows fast by Carmel to the sea.

BURNS.

HYMN OF THE HEBREW MAID.

WHEN Israel, of the Lord beloved,
Out of the land of bondage came,
Her father's God before her moved,
An awful guide, in smoke and flame.

D

By day, along the astonish'd lands
The cloudy pillar glided slow;
By night, Arabia's crimson'd sands
Return'd the fiery column's glow.

There rose the choral hymn of praise,
And trump and timbrel answer'd keen,
And Zion's daughters pour'd their lays,
With priest's and warrior's voice between.
No portents now our foes amaze,
Forsaken Israel wanders lone;
Our fathers would not know THY ways,
And THOU hast left them to their own.

But, present still, though now unseen;
When brightly shines the prosperous day,
Be thoughts of THEE a cloudy screen
To temper the deceitful ray.
And oh, when stoops on Judah's path
In shade and storm the frequent night,
Be THOU, long-suffering, slow to wrath,
A burning, and a shining light!

Our harps we left by Babel's streams,
The tyrant's jest, the Gentile's scorn;
No censer round our altar beams,
And mute our timbrel, trump, and horn.
But THOU hast said, the blood of goat,
The flesh of rams, I will not prize;
A contrite heart, an humble thought,
Are mine accepted sacrifice.

SCOTT.

CONFIDENCE IN GOD.

How are Thy servants bless'd, O Lord !

How sure is their defence !

Eternal wisdom is their guide,

Their help—omnipotence.

In foreign realms, and lands remote,

Supported by Thy care,

Through burning climes I pass'd unhurt,

And breathed in tainted air.

Thy mercy sweeten'd every soil,

Made every region please ;

The hoary Alpine hills it warm'd,

And smoothed the Tyrrhene seas.

Think, O my soul ! devoutly think,

How with affrighted eyes

Thou saw'st the wide-extended deep

In all its horrors rise !

Confusion dwelt in every face,

And fear in every heart,

When waves on waves, and gulfs on gulfs,

O'ercame the pilot's art !

Yet then, from all my griefs, O Lord !

Thy mercy set me free ;

While, in the confidence of prayer,

My soul took hold on Thee.

For though in dreadful whirls we hung

High on the broken wave,

I knew Thou wert not slow to hear,

Nor impotent to save.

The storm was laid, the winds retired,
Obedient to Thy will ;
The sea, that roar'd at Thy command,
At Thy command was still.

In midst of dangers, fears, and deaths,
Thy goodness I'll adore ;
And praise Thee for Thy mercies past,
And humbly hope for more.

My life—if Thou preserve my life—
Thy sacrifice shall be ;
And death—if death must be my doom—
Shall join my soul to Thee.

ADDISON.

THINK not, when all your scanty stores afford
Is spread at once upon the sparing board ;
Think not, when worn the homely robe appears,
While on the roof the howling tempest bears ;
What farther shall this feeble life sustain,
And what shall clothe these shivering limbs again ?
Say, does not life its nourishment exceed ?
And the fair body its investing weed ?

Behold ! and look away your low despair—
See the light tenants of the barren air :
To them nor stores nor granaries belong,
Nought but the woodland and the pleasing song ;
Yet your kind Heavenly Father bends His eye
On the least wing that flits along the sky :
He hears their gay and their distressful call,
And with unsparing bounty fills them all.

Observe the rising lily's snowy grace ;
Observe the various vegetable race ;
They neither toil nor spin, but careless grow ;
Yet see how warm they blush ! how bright they glow !

What regal vestments can with theirs compare !
 What king so shining ! or what queen so fair !
 If ceaseless thus the fowls of heaven He feeds ;
 If o'er the fields such lucid robes He spreads ;
 Will He not care for you, ye faithless, say ?
 Is He unwise ? or are ye less than they ?

THOMSON.

THE PURIFIER OF SILVER.

He that from dross would win the precious ore,
 Bends o'er the crucible an earnest eye,
 The subtile searching process to explore,
 Lest the one brilliant moment should pass by,
 When in the molten silver's virgin mass
 He meets his pictured face as in a glass.

Thus in God's furnace are His people tried,
 Thrice happy they who to the end endure.
 But who the fiery trial may abide ?
 Who from the crucible come forth so pure,
 That He whose eyes of flame look through the whole
 May see His image perfect in the soul ?

Nor with an evanescent glimpse alone,
 As in that mirror the refiner's face,
 But, stamped with heaven's broad signet, there be shown
 Immanuel's features full of truth and grace ;
 And round that seal of love this motto be,
 "Not for a moment, but—eternity."

MONTGOMERY.

VISION OF MIRZA.

ON the fifth day of the moon, which, according to the custom of my forefathers, I always kept holy, after having

washed myself, and offered up my morning devotions, I ascended the high hill of Bagdat, in order to pass the rest of the day in meditation and prayer. As I was airing myself on the tops of the mountains, I fell into a profound contemplation on the vanity of human life ; and passing from one thought to another, "Surely," said I, "man is but a shadow, and life a dream."

Whilst I was thus musing, I cast my eyes towards the summit of a rock that was not far from me, where I discovered one in the habit of a shepherd, with a musical instrument in his hand. As I looked upon him he applied it to his lips, and began to play. The sound of it was exceeding sweet, and wrought into a variety of tunes that were inexpressibly melodious, and altogether different from any thing I had ever heard ; they put me in mind of those heavenly airs that are played to the departed souls of good men upon their first arrival in paradise, to wear out the impressions of the last agonies, and qualify them for the pleasures of that happy place. My heart melted away in secret raptures. I had been often told that the rock before me was the haunt of a Genius ; and that several had been entertained with music who had passed by it, but never heard that the musician had before made himself visible. When he had raised my thoughts by those transporting airs which he played, to taste the pleasure of his conversation, as I looked upon him like one astonished, he beckoned to me, and by the way of waving his hand, directed me to approach the place where he sat. I drew near, with that reverence which is due to a superior nature, and as my heart was entirely subdued by the captivating strains I had heard, I fell down at his feet and wept.

The Genius smiled upon me with a look of compassion and affability that familiarized him to my imagination, and at once dispelled all the fears and apprehensions with which I approached him. He lifted me from the ground, and, taking me by the hand, "Mirza," said he, "I have heard thee in thy

soliloquies ; follow me." He then led me to the highest pinnacle of the rock, and placing me on the top of it; "cast thy eyes eastward," said he, "and tell me what thou seest." "I see," said I, "a huge valley, and a prodigious tide of water rolling through it." "The valley that thou seest," said he, "is the valley of misery, and the tide of water that thou seest is part of the great tide of eternity." "What is the reason," said I, "that the tide I see rises out of a dark mist at one end, and again loses itself in a thick mist at the other?" "What thou seest," said he, "is that portion of eternity which is called time, measured out by the sun, and reaching from the beginning of the world to its consummation. Examine, now," said he, "this sea that is thus bounded with darkness at both ends, and tell me what thou discoverest in it." "I see a bridge," said I, "standing in the midst of the tide." "The bridge thou seest," said he, "is human life ; consider it attentively." Upon a more leisurely survey of it, I found that it consisted of threescore and ten entire arches, with several broken arches, which, added to those that were entire, made up the number about an hundred. As I was counting the arches, the Genius told me that this bridge consisted at first of a thousand arches ; but that a great flood swept away the rest, and left the bridge in the ruinous condition I now beheld it. "But tell me farther," said he, "what thou discoverest on it." "I see multitudes of people passing over it," said I, "and a black cloud hanging on each end of it." As I looked more attentively, I saw several of the passengers dropping through the bridge into the great tide that flowed underneath it ; and upon farther examination perceived there were innumerable trap-doors that lay concealed in the bridge, which the passengers no sooner trode upon, than they fell through them into the tide, and immediately disappeared. These hidden pit-falls were set very thick at the entrance of the bridge, so that throngs of people no sooner broke through the cloud, than many of them fell into them. They grew thinner towards the middle, but multiplied and

lay closer together towards the end of the arches that were entire. There were indeed some persons, but their number was very small, that continued a kind of hobbling march on the broken arches, but fell through one after another, being quite tired and spent with so long a walk.

I passed some time in the contemplation of this wonderful structure, and the great variety of objects which it presented. My heart was filled with a deep melancholy to see several dropping unexpectedly in the midst of mirth and jollity, and catching by every thing that stood by them to save themselves. The Genius being moved with compassion towards me, bade me quit so uncomfortable a prospect. "Look no more," said he, "on man in the first stage of his existence, in his setting out for eternity; but cast thine eye on that thick mist into which the tide bears the several generations of mortals that fall into it." I directed my sight as I was ordered, and (whether or no the good genius strengthened it with any supernatural force, or dissipated part of the mist that was before too thick for the eye to penetrate,) I saw the valley opening at the farther end, and spreading forth into an immense ocean, that had a huge rock of adamant running through the midst of it, and dividing it into two equal parts. The clouds still rested on one half of it, insomuch that I could discover nothing in it: but the other appeared to me a vast ocean, planted with innumerable islands, that were covered with fruits and flowers, and interwoven with a thousand little shining seas that ran among them. I could see persons dressed in glorious habits, with garlands upon their heads, passing among the trees, lying down by the sides of fountains, or resting on beds of flowers; and could hear a confused harmony of singing birds, falling waters, human voices, and musical instruments.

Gladness grew in me upon the discovery of so delightful a scene. I wished for the wings of an eagle that I might fly away to those happy seats; but the Genius told me

there was no passage to them, except through the gates of death, that I saw opening every moment upon the bridge. "The islands," said he, "that lie so fresh and green before thee, are the mansions of good men after death; and every island is a paradise accommodated to its respective inhabitants. Are not these, O Mirza, habitations worth contending for? Does life appear miserable, that gives thee opportunities of earning such a reward? Is death to be feared, that will convey thee to so happy an existence? Think not man was made in vain who has such an eternity reserved for him." I gazed with inexpressible pleasure on these happy islands. At length, said I, "Shew me now, I beseech thee, the secrets that lie under those dark clouds that cover the ocean on the other side of the rock of adamant." The Genius making me no answer, I turned about to address myself to him a second time, but I found that he had left me. I then turned again to the vision which I had been so long contemplating; but instead of the rolling tide, the arched bridge, and the happy islands, I saw nothing but the long hollow valley of Bagdat, with oxen, sheep, and camels grazing upon the sides of it.

ADDISON.

THE EYE, THE EAR, AND THE HAND.

THE EYE.—In all ages, and by all peoples, the Eye appears to have been the most honoured of the organs of the senses. It has owed this, doubtless, largely to its surpassing beauty, and to the glory with which it lights up the countenance. But it owes its place as Queen of the Senses mainly to the fact, that its empire is far wider than those ruled over by its sisters. The Ear is fabled to hear the music of the spheres, but, in reality, is limited in space to those sounds which the earth and its atmosphere yield, and in time to the passing moment. The starry abysses for it are silent; and the past and the future are equally dumb.

The Nostril, the Tongue, and the Hand are similarly bounded, perhaps even more so; but the Eye so triumphs over space, that it traverses in a moment the boundless ocean which stretches beyond our atmosphere, and takes home to itself stars which are millions of miles away; and so far is it from being fatigued by its flight, that, as the Wise King said, "it is not satisfied with seeing." Our only physical conception of limitless infinity is derived from the longing of the eye to see farther than the farthest star.

And its empire over time is scarcely less bounded. The future it cannot pierce; but our eyes are never lifted to the midnight heavens without being visited by light which left the stars from which it comes, untold centuries ago; and suns which had burned out, æons before Adam was created, are shown to us as the blazing orbs which they were in those immeasurably distant ages, by beams which have survived their source through all that time.

How far we can thus glance backwards along a ray of light, and literally gaze into the deepest recesses of time, we do not know: and as little can we tell how many ages will elapse after our sun's torch is quenched, before he shall be numbered among lost stars, by dwellers in the sun most distant from us; yet assuredly it is through the eye that we acquire our most vivid conception of what eternity in the sense of unbeginning and unending time may mean.

It is most natural, then, that the eye which can thus triumph over space and time should hold the place of honour among the senses. Of all the miracles of healing which our Saviour performed, if we except the crowning one of resurrection from death, none seems to have made such an impression on the spectators as the restoration of sight to the blind. One of the blind whose sight was restored by Christ, triumphantly declared to the doubters of the marvellousness of the miracle, "Since the world began was it not heard that any one opened the eyes of

one was born blind." The perplexed though not unfaithful Jews inquired, "Could not this man, which opened the eyes of the blind, have caused that even this man should not have died?" And the opening of the eyes of the blind would startle us as much did we witness it now. To the end of time men will acknowledge that He who formed the eye justly declared of it, that "The light of the body is the eye;" and all tender hearts will feel a peculiar sympathy for those whom it has pleased God in his unsearchable wisdom to deprive of sight, and for whom in this life "Wisdom is at one entrance quite shut out."

THE EAR.—It was a splendid theory of the ancient Pagan sages, that the whole visible heavens were melodious with a music, which gifted ears were privileged to hear, when stars sang to stars, and constellations rejoiced together. And it is a still grander belief of modern Christian men, that within the invisible heavens angels that excel in strength, and undying human spirits, never cease their immortal song. But, apart from the sympathy which the imagination has with such a belief, it commends itself to our reason by an argument which none can disown, and which supplies the justification of that pre-eminent importance which, from the days of King David the Psalmist to our own, has been attached to the musical part of public religious worship.

Music forms the universal language which, when all other languages were confounded, the confusion of Babel left unconfounded. The white man and the black man, the red man and the yellow man, can sing together, however difficult they may find it to be to talk to each other. And both sexes and all ages may thus express their emotions simultaneously; for, in virtue of the power of the ear to distinguish, side by side, those differing but concordant notes which make up harmony, there is not only room but demand for all the qualities of voice which childhood, adolescence, maturity, and old age supply.

If this apply to earthly music, how much more to heavenly ! Though everything else in the future state may be dim and dark, and in all respects matter of faith or hope, not of vivid realization, this at least can be entered into, that all the children of Adam and Eve could unite in a common song. Of all the organs of the body, therefore, the ear is the one which, though for its present gratification it is beholden solely to the passing moment, can with the greatest confidence anticipate a wider domain hereafter.

THE HAND.—In many respects the organ of touch, as embodied in the Hand, is the most wonderful of the senses. The organs of the other senses are passive : the organ of touch alone is active. The eye, the ear, and the nostril stand simply open : light, sound, and fragrance enter, and we are compelled to see, to hear, and to smell ; but the hand selects what it shall touch, and touches what it pleases. It puts away from it the things which it hates, and beckons towards it the things which it desires ; unlike the eye, which must often gaze transfixed at horrible sights from which it cannot turn ; and the ear, which cannot escape from the torture of discordant sounds ; and the nostril, which cannot protect itself from hateful odours.

Moreover, the hand cares not only for its own wants, but, when the other organs of the senses are rendered useless, takes their duties upon it. The hand of the blind man goes with him as an eye through the streets, and safely threads for him all the devious way : it looks for him at the faces of his friends, and tells him whose kindly features are gazing on him ; it peruses books for him, and quickens the long hours by its silent readings.

It ministers as willingly to the deaf ; and when the tongue is dumb and the ear stopped, its fingers speak eloquently to the eye, and enable it to discharge the unwonted office of a listener.

The organs of all the other senses, also, even in their greatest perfection, are beholden to the hand for the enhancement and the exaltation of their powers. It constructs for the eye a copy of itself, and thus gives it a telescope with which to range among the stars; and by another copy on a slightly different plan, furnishes it with a microscope, and introduces it into a new world of wonders. It constructs for the ear the instruments by which it is educated, and sounds them in its hearing till its powers are trained to the full. It plucks for the nostril the flower which it longs to smell, and distils for it the fragrance which it covets. As for the tongue, if it had not the hand to serve it, it might abdicate its throne as the Lord of Taste. In short, the organ of touch is the minister of its sister senses, and, without any play of words, is the handmaid of them all.

And if the hand thus munificently serves the body, not less amply does it give expression to the genius and the wit, the courage and the affection, the will and the power of man. Put a sword into it, and it will fight for him; put a plough into it, and it will till for him; put a harp into it, and it will play for him; put a pencil into it, and it will paint for him; put a pen into it, and it will speak for him; plead for him, pray for him. What will it not do? What has it not done? A steam-engine is but a larger hand, made to extend its powers by the little hand of man! An electric telegraph is but a long pen for that little hand to write with! All our huge cannons and other weapons of war, with which we so effectually slay our brethren, are only Cain's hand made bigger, and stronger, and bloodier! What, moreover, is a ship, a railway, a lighthouse, or a palace,—what, indeed, is a whole city, a whole continent of cities, all the cities of the globe, nay, the very globe itself, in so far as man has changed it, but the work of that giant hand, with which the human race, acting as one mighty man, has executed its will!

WILSON.

THE BURIAL OF SIR JOHN MOORE.

Not a drum was heard, not a funeral note,
As his corse to the rampart we hurried;
Not a soldier discharged his farewell shot
O'er the grave where our hero we buried.

We buried him darkly at dead of night,
The sods with our bayonets turning;
By the struggling moonbeam's misty light,
And the lantern dimly burning.

No useless coffin enclosed his breast,
Nor in sheet nor in shroud we wound him;
But he lay like a warrior taking his rest,
With his martial cloak around him.

Few and short were the prayers we said,
And we spoke not a word of sorrow;
But we steadfastly gazed on the face that was dead,
And we bitterly thought of the morrow.

We thought as we hollow'd his narrow bed,
And smooth'd down his lonely pillow,
How the foe and the stranger would tread o'er his head,
And we far away on the billow!

Lightly they'll talk of the spirit that's gone,
And o'er his cold ashes upbraid him,—
But little he'll reck, if they let him sleep on
In the grave where a Briton has laid him.

But half of our heavy task was done,
When the clock struck the hour for retiring;
And we heard the distant and random gun
That the foe was sullenly firing.

Slowly and sadly we laid him down,
From the field of his fame fresh and gory ;
We carved not a line, and we raised not a stone—
But we left him alone with his glory.

WOLFE.

THE BATTLE OF KILLIECRANKIE.

EARLY in the morning of Saturday, the 27th of July, Dundee arrived at Blair Castle. There he learned that Mackay's troops were already in the ravine of Killiecrankie. It was necessary to come to a prompt decision. A council of war was held. The Saxon officers were generally against hazarding a battle. The Celtic chiefs were of a different opinion. Glengarry and Lochiel were now both of a mind. "Fight, my Lord," said Lochiel with his usual energy; "fight immediately: fight, if you have only one to three. Our men are in heart. Their only fear is that the enemy should escape. Give them their way; and be assured that they will either perish or gain a complete victory. But if you restrain them, if you force them to remain on the defensive, I answer for nothing. If we do not fight, we had better break up and retire to our mountains."

Dundee's countenance brightened. "You hear, gentlemen," he said to his lowland officers; "you hear the opinion of one who understands Highland war better than any of us." No voice was raised on the other side. It was determined to fight; and the confederated clans in high spirits set forward to encounter the enemy.

The enemy meanwhile had made his way up the pass. The ascent had been long and toilsome: for even the foot had to climb by twos and threes; and the baggage horses, twelve hundred in number, could mount only one at a time. No wheeled carriage had ever been tugged up that

arduous path. The head of the column had emerged and was on the table land, while the rearguard was still in the plain below. At length the passage was effected, and the troops found themselves in a valley of no great extent. Their right was flanked by a rising ground, their left by the Garry. Wearied with the morning's work, they threw themselves on the grass to take some rest and refreshment.

Early in the afternoon they were roused by an alarm that the Highlanders were approaching. Regiment after regiment started up and got into order. In a little while the summit of an ascent which was about a musket shot before them was covered with bonnets and plaids. Dundee rode forward for the purpose of surveying the force with which he was to contend, and then drew up his own men with as much skill as their peculiar character permitted him to exert.

Meanwhile a fire of musketry was kept up on both sides, but more skilfully and more steadily by the regular soldiers than by the mountaineers. The space between the armies was one cloud of smoke. Not a few Highlanders dropped, and the clans grew impatient. The sun however was low in the west before Dundee gave the order to prepare for action. His men raised a great shout. The enemy, probably exhausted by the toil of the day, returned a feeble and wavering cheer. "We shall do it now," said Lochiel: "that is not the cry of men who are going to win." He had walked through all his ranks, had addressed a few words to every Cameron, and had taken from every Cameron a promise to conquer or die.

It was past seven o'clock. Dundee gave the word. The Highlanders dropped their plaids. The few who were so luxurious as to wear rude socks of untanned hide spurned them away. It was long remembered in Lochaber that Lochiel took off what probably was the only pair of shoes in his clan, and charged bare-

foot at the head of his men. The whole line advanced firing. The enemy returned the fire and did much execution. When only a small space was left between the armies, the Highlanders suddenly flung away their firelocks, drew their broadswords, and rushed forward with a fearful yell. The Lowlanders prepared to receive the shock; but this was then a long and awkward process; and the soldiers were still fumbling with the muzzles of their guns and the handles of their bayonets when the whole flood of Macleans, Macdonalds, and Camerons came down. In two minutes the battle was lost and won. The ranks of Balfour's regiment broke. He was cloven down while struggling in the press. Ramsay's men turned their backs and dropped their arms. Mackay's own foot were swept away by the furious onset of the Camerons. His brother and nephew exerted themselves in vain to rally the men. The former was laid dead on the ground by a stroke from a claymore. The latter, with eight wounds on his body, made his way through the tumult and carnage to his uncle's side. Even in that extremity Mackay retained all his self-possession. He had still one hope. A charge of horse might recover the day; for of horse the bravest Highlanders were supposed to stand in awe. But he called on the horse in vain. Belhaven indeed behaved like a gallant gentleman: but his troopers, appalled by the rout of the infantry, galloped off in disorder: Annandale's men followed: all was over; and the mingled torrent of red-coats and tartans went raving down the valley to the gorge of Killiecrankie.

Mackay, accompanied by one trusty servant, spurred bravely though the thickest of the claymores and targets, and reached a point from which he had a view of the field. His whole army had disappeared, with the exception of some Borderers whom Leven had kept together, and of Hastings' regiment, which had poured a murderous fire into the Celtic ranks, and which still kept unbroken

order. All the men that could be collected were only a few hundreds. The general made haste to lead them across the Garry, and, having put that river between them and the enemy, paused for a moment to meditate on his situation.

He could hardly understand how the conquerors could be so unwise as to allow him even that moment for deliberation. They might with ease have killed or taken all who were with him before the night closed in. But the energy of the Celtic warriors had spent itself in one furious rush and one short struggle. The pass was choked by the twelve hundred beasts of burden which carried the provisions and baggage of the vanquished army. Such a booty was irresistibly tempting to men who were impelled to war quite as much by the desire of rapine as by the desire of glory. It is probable that few even of the chiefs were disposed to leave so rich a prize for the sake of King James. Dundee himself might at that moment have been unable to persuade his followers to quit the heaps of spoil, and to complete the great work of the day; but Dundee was no more.

At the beginning of the action he had taken his place in front of his little band of cavalry. He bade them follow him, and rode forward. But it seemed to be decreed that, on that day, the Lowland Scotch should in both armies appear to disadvantage. The horse hesitated. Dundee turned round, stood up in his stirrups, and, waving his hat, invited them to come on. As he lifted his arm, his cuirass rose, and exposed the lower part of his left side. A musket ball struck him; his horse sprang forward and plunged into a cloud of smoke and dust, which hid from both armies the fall of the victorious general. A person named Johnstone was near him and caught him as he sunk down from the saddle. "How goes the day?" said Dundee. "Well for King James," answered Johnstone: "but I am sorry for your Lordship."

"If it is well for him," answered the dying man, "it matters the less for me." He never spoke again; but when, half an hour later, Lord Dunfermline and some other friends came to the spot, they thought that they could still discern some faint remains of life. The body, wrapped in two plaids, was carried to the Castle of Blair.

MACAULAY.

BURNING eye and flushing cheek
Told the clansmen's fierce emotion,
And they harder drew their breath;
For their souls were strong within them,
Stronger than the grasp of death.
Soon we heard a challenge-trumpet
Sounding in the Pass below,
And the distant tramp of horses,
And the voices of the foe:
Down we crouched amid the bracken,
Till the Lowland ranks drew near,
Panting like the hounds in summer,
When they scent the stately deer.
From the dark defile emerging,
Next we saw the squadrons come,
Leslie's foot and Leven's troopers
Marching to the tuck of drum;
Through the scattered wood of birches,
O'er the broken ground and heath,
Wound the long battalion slowly,
Till they gained the field beneath;
Then we bounded from our covert.—
Judge how looked the Saxons then,
When they saw the rugged mountain
Start to life with armed men!
Like a tempest down the ridges
Swept the hurricane of steel,

Rose the slogan of Macdonald,
Flashed the broadsword of Lochiel!
Vainly sped the withering volley
'Mongst the foremost of our band—
On we poured until we met them
Foot to foot, and hand to hand.
Horse and man went down like drift-wood
When the floods are black at Yule,
And their carcasses are whirling
In the Garry's deepest pool:
Horse and man went down before us—
Living foe there tarried none
On the field of Killiecrankie,
When that stubborn fight was done !

AYTOUN.

FROM SMYRNA TO CONSTANTINOPLE.

EARLY in the morning I found myself opposite the promontory of Lectum, separating the ancient Troas from Æolia ; a little to the right, but hardly visible, were the ruins of Assos, where the apostles stopped to take in Paul : a little farther the ruins of Alexandria Troas, one of the many cities founded by Alexander during his conquest in Asia ; to the left, at some distance in the sea, is the island of Lemnos, in the songs of the poets overshadowed by the lofty Olympus, the island that received Vulcan after he was expelled from heaven by Jupiter. A little farther, nearer the land, is the island of Tenedos, where Paris first landed after carrying off Helen, and behind which the Greeks withdrew their fleet when they pretended to have abandoned the siege of Troy. Still farther on the mainland, is the promontory of Sigæum, where the Scamander empties into the sea, and near which were fought the principal of

Homer's battles. If there be a spot of ground on earth in which the historical, and the poetical, and the fabulous, are so beautifully blended together that we would not separate them even to discover the truth, it is before us now. Extending for a great distance along the shore, and back as far as the eye can reach, under the purest sky that ever overshadowed the earth, lies a rich and beautiful plain, and it is the plain of Troy, the battle-ground of heroes.

Oh field of glory and of blood, little does he know, that surly Turk who is now lazily following his plough over thy surface, that every blade of thy grass could tell of heroic deeds, the shock of armies, the meeting of war-chariots, the crashing of armour, the swift flight, the hot pursuit, the shouts of victors, and the groans of the dying. Beyond it, towering to the heavens, is a lofty mountain, and it is Mount Ida, on whose top Paris adjudged the golden apple to the goddess of beauty, and paved the way for those calamities which brought on the ten years' siege, and laid in ruins the ancient city of Priam. Two small streams taking their rise from the mountain of the gods, join each other in the middle of the plain; Scamander and Simois, whose waters once washed the walls of the ancient city of Dardanus: and that small, confused, and shapeless mass of ruins, that beautiful sky and the songs of Homer, are all that remain to tell us that "Troy was." Close to the sea, and rising like mountains above the plain, are two immense mounds of earth; they are the tombs of Ajax and Achilles. Shades of departed heroes, fain would we stop and pay the tribute which we justly owe, but we are hurried past by an engine of a hundred-horse power.

Onward, still onward! We have reached the ancient Hellespont, the Dardanelles of the Turks, famed as the narrow water that divides Europe from Asia, for the beauties that adorn its banks, and for its great Turkish fortifications. Three miles wide at the mouth, it becomes gradually narrower, until, in the narrowest part, the natives

of Europe and Asia can talk together from the opposite sides. For sixty miles (its whole length) it presents a continued succession of new beauties, and in the hands of Europeans, would make one of the loveliest countries in the world.

At three o'clock we arrived at the Dardanelles, a little Turkish town in the narrowest and most beautiful part of the straits; a strong fort with enormous cannon stands frowning on each side. These are the terrible fortifications of Mohammed II., the keys of Constantinople. The guns are enormous; of one in particular, the muzzle is two feet three inches in diameter; but, with Turkish ingenuity, they are so placed as to be discharged when a ship is directly opposite. If the ship is not disabled by the first fire, and does not choose to go back and take another, she is safe. At every moment a new picture presents itself; a new fort, a new villa, or the ruins of an ancient city. A naked point on the European side, so ugly compared with all around it as to attract particular attention, projects into the strait, and here are the ruins of Sestos; here Xerxes built his bridge of boats to carry over his millions to the conquest of Greece; and here, when he returned with the wreck of his army, defeated and disgraced, found his bridge destroyed by a tempest, and, in his rage, ordered the chains to be thrown into the sea and the waves to be lashed with rods.

Our voyage is drawing to a close. Toward evening we were entering the Sea of Marmora, the ancient Propontis, like one of our small lakes. At daylight we were approaching Constantinople; twelve miles this side, on the bank of the Sea of Marmora, is the village of St Stephano. Here the domes and minarets of the ancient city, with their golden points and glittering crescents, began to appear in sight.

High above the rest towered the mosque of Sultan Achmet and the beautiful dome of St Sophia, the ancient

Christian church, but now, for nearly four hundred years, closed against the Christians' feet. In front, that narrow water, a thousand caiques shooting through it like arrows, and its beautiful banks covered with high palaces and gardens in the Oriental style, is the Thracian Bosphorus. We float around the walls of the palace, enter the Golden Horn, and before us, with its thousand mosques and its myriad of minarets, their golden points glittering in the sun, is the Roman city of Constantinople, the Thracian Byzantium, the Stamboul of the Turks; the city which, more than all others, excites the imagination and interests the feelings; once dividing with Rome the empire of the world; built by a Christian emperor, and consecrated as a Christian city, a "burning and a shining light" in a season of universal darkness, all at once lost to the civilized world; falling into the hands of a strange and fanatic people, the gloomy followers of a successful soldier; a city which, for nearly four centuries, has sat with its gates closed in sullen distrust and haughty defiance of strangers; which once sent forth large and terrible armies, burning, slaying, and destroying, shaking the hearts of princes and people; now lying like a fallen giant, huge, unwieldy, and helpless, ready to fall into the hands of the first invader, and dragging out a precarious and ignoble existence, but by the mercy or policy of the great Christian powers.

The morning sun, now striking upon its domes and minarets, covers it, as it were, with burnished gold; a beautiful verdure surrounds it, and pure waters wash it on every side. Can this beautiful city, rich with the choicest gifts of heaven, be pre-eminently the abode of pestilence and death? where a man carries about with him the seeds of disease to all whom he holds dear? if he extend the hand of welcome to a friend, if he embrace his child, or rub against a stranger, the friend, and the child, and the stranger, follow him to the grave? where, year after year, the angel of death stalks through the streets, and thousands

and tens of thousands look him calmly in the face, and murmuring "Allah, Allah, God is merciful," with a fatal trust in the Prophet, lie down and die? We enter the city, and these questions are quickly answered. A lazy, lounging, and filthy population; beggars basking in the sun, and dogs licking their sores; streets never cleaned but by the winds and rains; immense burying-grounds all over the city; tombstones at the corners of the streets; graves gaping ready to throw out their half-buried dead, the whole approaching to one vast charnel-house, dispel all illusions and remove all doubts, and we are ready to ask ourselves if it be possible that, in such a place, health can ever dwell. We wonder that it should ever, for the briefest moment, be free from that dreadful scourge which comes with every summer's sun, and strews its streets with dead.

STEPHENS.

THE CHARGE OF THE LIGHT BRIGADE.

HALF a league, half a league,
Half a league onward,
All in the valley of death,
Rode the Six Hundred.
"Charge!" was the captain's cry,
Theirs not to reason why,
Theirs not to make reply,
Theirs but to do and die;
Into the valley of death
Rode the Six Hundred.

Cannon to right of them,
Cannon to left of them,
Cannon in front of them
Volleyed and thundered;
Stormed at with shot and shell,
Boldly they rode and well;

•
Into the jaws of death,
Into the mouth of hell,
Rode the Six Hundred.

Flashed all their sabres bare,
Flashed all at once in air,
Sabring the gunners there,
Charging an army, while
All the world wondered ;
Plunged in the battery smoke,
Fiercely the line they broke ;
Strong was the sabre stroke :
Making an army reel
Shaken and sundered.
Then they rode back, but not—
Not the Six Hundred.

Cannon to right of them,
Cannon to left of them,
Cannon behind them
Volleyed and thundered ;
Stormed at with shot and shell,
They that had struck so well
Rode through the jaws of death,
Half a league back again,
Up from the mouth of hell,
All that was left of them—
Left of Six Hundred.

Honour the brave and bold !
Long shall the tale be told,
Yea, when our babes are old—
How they rode onward.

TENNYSON.

THE ECONOMY OF NATURE.

THE economy of trees, plants, and vegetables is a curious subject of inquiry, and in all of them we may trace the hand of a beneficent Creator ; the same care which He has bestowed on his creatures is extended to plants. This is remarkably the case with respect to hollies ; the edges of the leaves are provided with strong, sharp spines, as high up as they are within the reach of cattle ; above that height, the leaves are generally smooth, the protecting spines being no longer necessary. The Poet has noticed this circumstance in the following pretty lines:—

“O reader! hast thou ever stood to see
The holly tree?
The eye that contemplates it well, perceives
Its glossy leaves;
Ordered by an Intelligence so wise
As might confound an Atheist's sophistries.

“Below, a circling fence, its leaves are seen
Wrinkled and keen;
No grazing cattle through their prickly round
Can reach to wound;
But, as they grow where nothing is to fear,
Smooth and unarm'd the pointless leaves appear.”

I was lately shown a plant which puts out a flower from the lower part of the stem. When its blossom is over, the stalk on which it grew turns down to the ground ; the end penetrates the earth, and there throws out and ripens its seed-pod : but for this propensity of the plant, the seeds would probably be destroyed by birds and insects. Some plants flourish in one climate, and some in another, according to the several purposes for which they were designed by a good Providence. Those which are most generally useful will bear almost any temperature. This is particularly the case with grass. Nettles, I believe, are never touched by cattle of any description, neither will they

trample upon them. What a secure retreat, therefore, do they afford for birds to build their nests in, and for hares to deposit their young ! The same remark applies in a great degree to furze, thistles, and the common bramble.

When I see a beautiful and magnificent tree flourishing in a verdant meadow and partaking of the moisture from some neighbouring stream, with cattle enjoying the protection of its shade, and birds sporting amongst its branches, it brings delightfully to my mind the fine simile in Scripture in which a good man is described: "He shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither;" and very numerous are the instances in which the sublime precepts of Holy Writ are beautifully illustrated by natural objects. Where religious feelings have a due influence on the mind, it will be led more strongly to appreciate the charms of a country life, and enjoy the various little scenes and objects which are constantly presenting themselves to my view. From some one or other of them the highest feelings of devotion towards God, and consequently of kindness towards our fellow-creatures, may be awakened: some lesson may be learnt, or some information derived, which will increase our admiration of the ways of Providence.

"This our life, exempt from public haunt,
Finds tongues in trees, books in running brooks,
Sermons in stones, and good in everything."

Nature indeed is a great economist; and more and more every day do I perceive this to be the case. The farina of flowers—the decay of a leaf—the dead bark of a tree—all in their turn answer some useful purpose. A piece of rush which sinks to the bottom of a river becomes the abode of an insect, and the deserted web of a spider forms part of the building materials of some of our pretty songsters. I have elsewhere remarked that, when cattle are cooling themselves in the water, the flies they whisk off with their tails become the food of numerous small fish which crowd round

the herd ; and, when they are grazing, they are frequently followed by water-wagtails, which procure their food by the same means. The fern-owls and the bats prevent too great an increase of nocturnal insects. Though the latter have no apparent enemies to contend with, they are not permitted to become so numerous as to be an annoyance to man. Mice, which conceal themselves in the daytime and seek their food at night, are also kept within due limits by the owl, whose soft feathers and silent motions enable it to approach its prey without creating any alarm.

It is difficult to ascertain the wiles and stratagems which wild or savage animals have of securing their prey ; but it is probable that, if we could be acquainted with them, they would evince no small degree of sagacity and forethought. We know that this is the case with the fox and the wolf, and the following instance will show that the dog sometimes shows the felonious cunning of the race to which he belongs.

My neighbour, Mr. S., during the time he resided in Ireland, had a large flock of valuable sheep. Two of them having been killed by dogs, he set several men to watch the sheep at night, and, as long as they continued to do so, not a sheep was missing. The very night, however, on which the men were withdrawn, ten of the sheep were killed ; one dog was caught in the act of worrying a sheep in a ditch, and another was seen to make its escape. The captured dog was marked with paints, and had a small log fastened to him ; he was then turned loose, in order that his owner might be discovered. As long as the dog was watched, he lay down, and refused to move, but now and then lifted up his head, and looked about him. Finding this to be the case, Mr S. stationed men on horseback at different places, and went himself to the top of his house to give a signal of the quarter to which the dog might make. Finding no one in sight, the dog at last made off, and was traced to a house two miles distant. The other dog was.

also discovered in the same neighbourhood, and his owner confessed that he had seen him return, go into a pond to wash himself, where he shook his head backwards and forwards, evidently for the purpose of washing something from his mouth. He afterwards rolled on some fodder, and then hid himself amongst the straw in a barn, from whence he did not come out until he was dry. Both the dogs were shot. It appeared that they must have passed their master's sheep untouched before they began their depredations on Mr. S.'s flock, thus evincing a degree of cunning, and almost reflection, of no common kind.

JESSE.

THE GLORY OF THE CROSS OF CHRIST.

THE glory of the cross of Christ is the glory of God's infinite perfections displayed in the work of redemption. It is this which makes any other object glorious, according as it manifests more or less of the perfections of God. This is what makes the works of creation so glorious. The heavens declare God's glory, the firmament His handiwork. But the face of nature, though glorious in itself, is overcast with a gloom of terror to us; it shows the glory of the Judge to the criminal; the glory of the offended Sovereign to the guilty rebel. Conscience tells us we are rebels against God; and nature does not show how such rebels may recover His favour; how, in such a well-ordered government as the divine government must be, the righteous Judge and Lawgiver may be glorified, and the criminal escape; much less how the Judge may be glorified, and the criminal obtain glory likewise.

It is the Cross of Christ that solves the problem, and makes all clear. Here shine spotless justice, incomprehensible wisdom, and infinite love all at once. None of them darkens or eclipses the other; every one of them

gives a lustre to the rest. They mingle their beams, and shine with united eternal splendour; the just Judge, the merciful Father, and the wise Governor. No other object gives such a display of all these perfections; yea, all the objects we know give not such a display of any one of them. Nowhere does justice appear so awful, mercy so amiable, or wisdom so profound. MACLAURIN.

DEATH-BED CONSOLATIONS.

I WAS recently asked one summer evening by a friend (a medical man in the country, with whom I was staying) to visit the cottage of a poor fellow whose wife was dying of consumption. Her husband had obtained for her all the comforts he could command; and my benevolent friend, the practitioner aforesaid, bestowed all his skill *gratis*. He had, on the like charitable terms, obtained the opinion of a physician, because he thought it would be an additional satisfaction to his poor patient to know that no means had been left untried. The physician saw at a glance that nothing was to be done—except the painful task of saying so; a task, however, which he shrunk from performing.

I told her as gently as I could—what I supposed not only her own fears had told her already, but my medical friend also—that human art could do no more, and that she must prepare to die. The husband was sitting by her bedside. I saw a shudder pass through his frame, and that hope had only that moment been dislodged from his heart; he looked at me with a peculiar expression of mingled stupefaction and horror. But he broke out into no womanly complaints, for he was a strong-minded man. After a moment, he turned a fixed look of peculiarly solemn tenderness on his wife, and gently laid his hand in hers, as if he would arrest her as she was setting out on the dark passage. On the other hand, to my surprise, she was far

less affected than he. She received the tidings with calm and silent acquiescence; then said simply, "I am prepared for it; I have sometimes felt it must be so." She glanced at the open Bible which her husband had been reading to her, and turning to him, said—"We shall meet again; I know Whom I have believed; and you know Him too. In our Father's house are many mansions, and He has gone to prepare a place for us." She quoted some of the passages which glow with the poetry of heaven and immortality; and as he listened, his sorrow seemed to catch bright gleams from the reflection of her own calm enthusiasm; like a dark cloud at the close of a wintry day, which the setting sun suddenly lights up with a glow of transient splendour. I sat gazing upon them in speechless sympathy. They did not seem sensible of my presence; for they were absorbed in those all-unutterable thoughts which make the presence of all the world just the same as solitude. Neither did they *say* much: they were talking with their eyes, and were speaking volumes in moments of time.

The cottage window was open, and the evening zephyr, laden with the fragrant breath of jessamine and honeysuckle, gently stirred the window-curtains to and fro, as though ministering spirits were stealing in and out of that peaceful room.

The setting sun, which shone through and through the clouds which lay on the horizon, and turned them to molten gold, seemed to me a fitting emblem of a Hope which thus converted the darkest sorrows of life into a diadem of glory. The *living* world it was which now looked so cold and dreary. It was we—the living—who seemed to have our faces towards the bleak north, and to be journeying from the sun. To him, to me also, from sympathy—*she* seemed the enviable. She was about to be born—born into Immortality; while we, the living, were but ensepulchred in a world on which the shadows of night and death lay so heavy.

Who shall estimate the value, in such an hour, of that hope and faith which thus lead the parting soul to enter on its lonely journey with tranquillity? which enables the ear (as it were) already to catch, as we descend the dim passage between this world and the next, the sound of the key turning in the lock which shuts out from us eternal sunshine; the key of "Him who opens and no man shuts, who shuts and no man opens;" of Him who Himself passed through the same "via dolorosa," but who, as His faithful disciples enter it, lovingly shows Himself at the gate which opens into Paradise, lets in on the ravished soul the streaming light of the everlasting day, and suffers it to catch glimpses of the ever-vernal scenes beyond?

GREYSON.

We watch'd her breathing through the night,
Her breathing soft and low,
As in her breast the wave of life
Kept heaving to and fro.

So silently we seem'd to speak,
So slowly moved about,
As we had lent her half our powers
To eke her living out.

Our very hopes belied our fears,
Our fears our hopes belied—
We thought her dying when she slept,
And sleeping when she died.

For when the morn came dim and sad,
And chill with early showers,
Her quiet eyelids closed—she had
Another morn than ours.

HOOD.

NEARER, my God, to Thee—

Nearer to Thee,

E'en though it be a cross

That raiseth me:

Still all my song would be,

Nearer, my God, to Thee—

Nearer to Thee.

Though like a wanderer,

Daylight all gone,

Darkness be over me,

My rest a stone;

Yet in my dreams, I'd be

Nearer, my God, to Thee—

Nearer to Thee.

There let the way appear.

Steps up to heaven;

All that Thou send'st to me

In mercy given—

Angels to beckon me

Nearer, my God, to Thee—

Nearer to Thee.

Then with my waking thoughts,

Bright with Thy praise,

Out of my stony griefs,

Bethel I'll raise;

So by my woes to be

Nearer, my God, to Thee—

Nearer to Thee.

Or if on joyful wing,

Cleaving the sky,

Sun, moon, and stars forgot,

Upwards I fly;

Still all my song shall be,

Nearer, my God, to Thee—

Nearer to Thee.

ADAMS.

'Tis but one family,—the sound is balm,
A seraph-whisper to the wounded heart ;
It lulls the storm of sorrow to a calm,
And draws the venom from the avenger's dart.

'Tis but one family,—the accents come
Like light from heaven to break the night of woe,
The banner cry, to call the spirit home,
The shout of victory o'er a fallen foe.

Death cannot separate—is memory dead ?
Has thought, too, vanished, and has love grown chill ?
Has every relic and memento fled,
And are the living only with us still ?

No ! in our hearts the lost we mourn remain,
Objects of love and ever-fresh delight ;
And fancy leads them in her fairy train,
In half-seen transports past the mourner's sight.

Yes ! in ten thousand ways or far or near,
The called by love, by meditation brought,
In heavenly visions yet they haunt us here,
The sad companions of our sweetest thought.

Death never separates ; the golden wires
That ever trembled to their names before,
Will vibrate still, though every form expires,
And those we love, we look upon no more.

No more indeed in sorrow and in pain,
But even mem'ry's need ere long will cease,
For we shall join the lost of love again
In endless bands, and in eternal peace.

EDMESTON.

THE CHRISTIAN'S REST.

"BROTHER, thou art gone before us,
And thy saintly soul is flown
Where tears are wiped from every eye,
And sorrow is unknown.
From the burden of the flesh,
And from care and fear released,
Where the wicked cease from troubling,
And the weary are at rest.

"The toilsome way thou'st travelled o'er,
And borne the heavy load ;
But Christ hath taught thy languid feet
To reach his blest abode.
Thou'rt sleeping now, like Lazarus,
Upon his Father's breast,
Where the wicked cease from troubling,
And the weary are at rest.

"Sin can never taint thee now,
Nor doubt thy faith assail,
Nor thy meek trust in Jesus Christ
And the Holy Spirit fail ;
And there thou'rt sure to meet the good
Whom on earth thou lovedst best,
Where the wicked cease from troubling,
And the weary are at rest.

" 'Earth to earth,' and 'Dust to dust,'
The solemn priest hath said,
So we lay the turf above thee now,
And we seal thy narrow bed ;
But thy spirit, brother, soars away
Among the faithful blest,
Where the wicked cease from troubling,
And the weary are at rest." MILMAN.

WHY THE EARTH MOVES ROUND THE SUN.

Papa—Lucy.

P. You remember, Lucy, that I explained to you some time ago why it is that all things fall to the ground.

L. O yes—It is because the ground draws them to it.

P. True. That is a consequence of the universal law in nature, that bodies attract each other in proportion to their bulk. So a very small thing in the neighbourhood of a very large one always tends to go to it, if not prevented by some other power. Well—you know I told you that the sun was a ball a great many times bigger than the ball we inhabit, called the earth; upon which you properly asked, how then it happened that the earth did not fall into the sun?

L. And why does it not?

P. That I am going to explain to you. You have seen your brother whirl round an ivory ball tied to the end of a string which he held in his hand?

L. Yes—and I have done it myself too.

P. Well, then—you felt that the ball was continually pulling, as if it tried to make its escape?

L. Yes; and one my brother was swinging *did* make its escape, and flew through the sash.

P. It did so. That was a lesson in the *centrifugal* motion, or that power by which a body thus whirled continually endeavours to fly off from the centre round which it moves. This is owing to the force or impulse you give it at setting out, as if you were going to throw it away from you. The string by which you hold it, on the contrary, is the power which keeps the ball towards the centre, called the *centripetal* power. Thus you see there are two powers acting upon the ball at the same time; one to make it fly off, the other to hold it in; and the conse-

quence is, that it moves directly according to neither, but between both; that is, round and round. This it continues to do while you swing it properly; but if the string breaks or slips off, away flies the ball; on the other hand, if you cease to give it the whirling force, it falls towards your hand.

L. I understand all this.

P. I will give you another instance of this double force acting at the same time. Do not you remember seeing some curious feats of horsemanship?

L. Yes.

P. One of them was, that a man standing with one leg upon the saddle and riding full speed, threw up balls into the air, and caught them as they fell.

L. I remember it very well.

P. Perhaps you would have expected these balls to have fallen behind him, as he was going at such a rate.

L. So I did.

P. But you saw that they fell into his hand as directly as if he had been standing quite still. That was because, at the instant he threw them up, they received the motion of the horse straight forwards, as well as the upright motion that he gave them, so that they made a slanting line through the air, and came down in the same place they would have reached if he had held them in his hand all the while.

L. That is very curious indeed!

P. In the same manner, you may have observed, in riding in a carriage, that if you throw anything out of the window, it falls directly opposite, just as if the carriage was standing still, and is not left behind you.

L. I will try that the next time I ride in one.

P. You are then to imagine the sun to be a mighty mass of matter, many thousand times bigger than our earth, placed in the centre, quiet and unmoved. You are

to conceive our earth, as soon as created, launched with vast force in a straight line, as if it were a bowl on a green. It would have flown off in this line for ever, through the boundless regions of space, had it not at the same instant received a pull from the sun by its attraction. By the wonderful skill of the Creator, these two forces were made exactly to counterbalance each other ; so that just as much as the earth, from the original motion given it, tends to fly forwards, just so much the sun draws it to the centre ; and the consequence is, that it takes a course between the two, which is a circle round and round the sun.

L. But if the earth was set a rolling like a bowl upon a green, I should think it would stop of itself, as the bowl does.

P. The bowl stops because it is continually rubbing against the ground, which checks its motion ; but the ball of the earth moves in empty space, where there is nothing to stop it.

L. But if I throw a ball through the air, it will not go on for ever, but will come down to the ground.

P. That is because the force with which you can throw it is much less than the force by which it is drawn to the earth. But there is another reason too, which is the resistance of the air. This space all around us and over us is not empty space ; it is quite full of a thin transparent liquid called air.

L. Is it ?

P. Yes. If you move your hand quickly through it, you will find something resisting you, though in a slight degree. And the wind, you well know, is capable of pressing against anything with almost irresistible force ; and yet wind is nothing but a quantity of air put into violent motion. Everything then that moves through the air is continually obliged to push some of this fluid out of the

way, by which means it is constantly losing part of its motion.

L. Then the earth would do the same ?

P. No ; for it moves in *empty space*.

L. What ! does it not move through the air ? .

P. The earth does not move *through* the air, but carries the air along with it. All the air is contained in what is called the *atmosphere*, which you may compare to a kind of mist or fog clinging all round to the ball of the earth, and reaching a certain distance above it, which has been calculated at about forty-five miles.

L. That is above the clouds, then ?

P. Yes ; all the clouds are within the atmosphere, for they are supported by the air. Well—this atmosphere rolls about along with the earth, as if it were a part of it, and moves with it through the sky, which is a vast field of empty space. In this immense space are all the stars and planets, which have also their several motions. There is nothing to stop them, but they continually go on, by means of the force that the Creator has originally impressed upon them.

L. Do not some of the stars move round the sun, as well as our earth ?

P. Yes ; those that are called *planets*. These are all subject to the same laws of motion with our earth. They are attracted by the sun as their centre, and form, along with the earth, that assemblage of worlds which is called the *solar system*.

L. Is the moon one of them ?

P. The moon is called a *secondary* planet, because its immediate connection is with our earth, round which it rolls, as we do round the sun. It however accompanies our earth in its journey round the sun.

Evenings at Home.

SUNSET IN EDEN.

OFTEN have I swept backward in imagination six thousand years, and stood beside our great ancestor, as he gazed for the first time upon the going down of the sun. What strange sensations must have swept through his bewildered mind, as he watched the last departing ray of the sinking orb, unconscious whether he should ever behold its return ! Wrapt in a maze of thought, strange and startling, his eye long lingers about the point at which the sun had slowly faded from his view. A mysterious darkness, hitherto unexperienced, creeps over the face of nature. The beautiful scenes of earth, which, through the swift hours of the first wonderful day of his existence, had so charmed his senses, are slowly fading one by one from his dimmed vision. A gloom, deeper than that which covers earth, steals across the mind of earth's solitary inhabitant. He raises his inquiring gaze towards heaven, and lo ! a silver crescent of light, clear and beautiful, hanging in the western sky, meets his astonished eye. The young moon chains his untutored vision, and leads him upward to her bright attendants, which are now stealing one by one from out the deep blue sky. The solitary gazer bows, and wonders, and adores. The hours glide by—the silver moon is gone—the stars are rising, slowly ascending the heights of heaven, and solemnly sweeping downward in the stillness of the night. The first grand revolution to mortal vision is nearly completed. A faint streak of rosy light is seen in the east—it brightens—the stars fade—the planets are extinguished—the eye is fixed in mute astonishment on the growing splendour, till the first rays of the returning sun dart their radiance on the young earth and its solitary inhabitant. To him “the evening and the morning were the first day.”

MITCHELL.

THE ASTRONOMER NEVER DIES.

THE curiosity excited on this first solemn night—the consciousness that in the heavens God had declared His glory—the eager desire to comprehend the mysteries that dwell in these bright orbs, have clung to the descendants of him who first watched and wondered, through the long lapse of six thousand years. Generation after generation has rolled away, age after age has swept silently by, but each has swelled by its contribution the stream of discovery. The astronomer has ever lived, and never dies. The sentinel upon the watch-tower is relieved from duty, but another takes his place, and the vigil is unbroken. No—the astronomer never dies. He commences his investigations on the hill-tops of Eden—he studies the stars through the long centuries of antediluvian life. The deluge sweeps from the earth its inhabitants, their cities, and their monuments; but when the storm is hushed, and the heavens shine forth in beauty, from the summit of Mount Ararat the astronomer resumes his endless vigils. In Babylon he keeps watch, and among the Egyptian priests he inspires a thirst for the sacred mysteries of the stars. The plains of Shinar, the temples of India, the pyramids of Egypt, are equally his watching places. When science fled to Greece, his home was in the schools of her philosophers; and when darkness covered the earth for a thousand years, he pursued his never-ending task from amidst the burning deserts of Arabia. When science dawned on Europe, the astronomer was there, toiling with Copernicus, watching with Tycho, suffering with Galileo, triumphing with Kepler. Six thousand years have rolled away since the grand investigation commenced. We stand at the terminus of this vast period, and looking back through the long vista of departed years, mark with honest pride the successive triumphs of our race. Midway between the past and

future, we sweep backward and witness the first rude effort to explain the celestial phenomena ; we may equally stretch forward thousands of years, and although we cannot comprehend what shall be the condition of astronomical science at that remote period, of one thing we are certain—the past, the present, and the future, constitute but one unbroken chain of observations, condensing all time, to the astronomer, into one mighty *now*. ID.

THE SHOOTING STAR.

AMID the silent countless host,
That slumber in the skies ;
What star is that which sparkles most,
And shoots along, and dies,—
Seen all at once, and gone when seen,
Sweeping, the distant orbs between !

Oh ! can it be that some fair world,
Has fled before the frown
Of Him whose mighty arm has hurled
The flashing lightning down ;
And that ere now the sinner's cry,
Tells of his fearful agony !

Or, can it be, and sweet the thought,
That spirit pure has gone
To yield the blessing prayer has sought,
And hush the mourner's moan ;
A light encircled messenger,
Of troubled soul the comforter !

It may be these—it may be more
Than thou, my soul canst scan ;

Some scene sublime of boundless power,
Beyond the thought of man,
At which the awe-struck angels gaze,
While wonder humbly melts to praise.

HURST.

A MOONLIGHT SCENE.

How calmly, gliding through the dark blue sky,
The midnight moon ascends ! Her placid beams,
Through thinly scatter'd leaves, and boughs grotesque,
Mottle with mazy shades the orchard slope ;
Here o'er the chestnut's fretted foliage, grey
And massy, motionless they spread ; here shine
Upon the crags, deepening with blacker night
Their chasms ; and there the glittering argentry
Ripples and glances on the confluent streams.

A lovelier, purer light than that of day
Rests on the hills ; and oh ! how awfully,
Into that deep and tranquil firmament,
The summits of Auseva rise serene !

The watchman on the battlements partakes
The stillness of the solemn hour ; he feels
The silence of the earth ; the endless sound
Of flowing water soothes him ; and the stars,
Which, in that brightest moonlight well-nigh quench'd,
Scarce visible, as in the utmost depth
Of yonder sapphire infinite, are seen,
Draw on with elevating influence
Towards eternity the attemper'd mind.

SOUTHEY.

"SHIP AHOY!"

FEW occurrences in a long voyage are more generally interesting and exciting than the sight, and particularly the speaking, of another ship. The approach of the vessel is always a pleasing sight; her graceful movements, as she bounds over the waves, the white foam rolling up under her bows, her taper masts and spars, the elegant curves which the breeze gives to her running rigging, the white, plump sails are all beautiful; if she is to windward, her clean white decks are visible as she lies over, the crew collected in the waist, or about the bows, the officers and passengers assembled on the quarter-deck, gazing, with equal curiosity to our own, upon our appearance; the captain standing with his speaking-trumpet in his hand, ready to seize the moment of nearest approach. He raises his trumpet to his mouth; "Ship ahoy!" "Hilloa!" "What ship is that, pray? Where are you from? Where are you bound? How long are you out? What's your longitude?" Very often, from the sighing of the wind among the cordage, the working of the ship, the ripple and splash at her side, as well as from distance, while the questions, from being so much in course, are perfectly intelligible, the answers are almost inaudible, and can sometimes only be guessed at, the consonants being entirely lost, and the vowel-sounds alone heard. This will explain a laughable incident which took place a few years ago, on the homeward passage of the John Bull transport, from Rio Janeiro.

One fine starlight evening, about half-past eight o'clock, the officer on deck came into the cabin, and announced that a ship was hailing. All hands immediately came on deck, and the captain asked the position of the stranger. At that moment, "Ship ahoy!" was heard, the voice apparently being to windward. A lantern was put over the gangway, the mainsail was hauled up, and the mainyard

backed, to stop the vessel's way. No ship was to be seen. "Silence, fore and aft!" ordered the captain, for the decks were now crowded, soldiers, sailors, women, children, all were up. "Ship ahoy!" again came over the waves, and "Hilloa!" answers the captain at the top of his voice. Every one now listened with breathless attention for the next question, expecting the name of the ship would be demanded, as usual: "Ship ahoy!" again resounded, and several together answered "Hilloa!" louder than before; but no notice was taken of the reply, and no sail was in sight. "It is very strange!" exclaimed the captain; "Where can she be?" One thought she might have passed them; others suggested that it might be a pirate-boat about to board. The captain took the hint, put the troops under arms, cleared away the guns ready for action, and double-shotted them. Silence being again obtained, "Ship ahoy!" was heard again, and the voice still seemed to come from the windward. The chief mate then suggested the possibility of some persons being on a raft, and volunteered to go in a boat to ascertain. The boat was lowered, and the two mates, with the boat's crew, each armed with sword and pistol, rowed at some distance round the ship.

On the officers' return, they reported that they could neither hear or see anything. Silence prevailed while they reported this to the captain, every one being desirous to know the issue of the search. Instantly, the same "Ship ahoy!" was heard, though much less audibly, and, apparently, at a greater distance than before. The next moment it was heard much louder and closer. A feeling of intense excitement now prevailed in each of the crowd of persons on board the transport. More than an hour had passed since the ship was hove to; every one had repeatedly heard the stranger's hail, coming through the darkness, but nothing had been seen of him, and no further question or answer could be elicited. The screams of the women and children, and the muttering of the men, showed that super-

stitious dread of something supernatural and unearthly was creeping over every one. The captain issued orders to shoulder arms, and to make ready the guns.

Just at this crisis, one of the cabin-boys, who had been standing near the mainmast, stepped aft to the chief mate, and said, "It's a fowl in the hencoop, sir, that's a-making that 'ere noise." That officer indignantly bestowed on him a sound box on the ear for his information, but immediately recollecting that he was an intelligent lad, accompanied him to the hencoop with a lantern; where he saw a fowl lying on its side. He took it out, and placed it on the capstan; and there, in the sight of the whole company, was beheld a poor hen dying of the croup, occasionally emitting a sound "ee-a-aw," which resembled the words "Ship a-hoy!" coming from a distance, as closely as any hail that was ever heard. *Nautical Magazine.*

LIFE EVERYWHERE!

IN the air we breathe, in the water we drink, in the earth we tread on, Life is everywhere.

The air is crowded with birds—beautiful, tender, intelligent birds; and swarming with insects—those little animated miracles. The waters are peopled with innumerable forms, from the animalcule, so small that one hundred and fifty millions of them would not weigh a grain, to the whale, so large that it seems an island as it sleeps upon the waves. The bed of the seas is alive with polypes, crabs, star-fishes, and with sand-numerous shell-animalcules. The rugged face of rocks is scarred by the silent boring of soft creatures; and blackened with countless mussels, barnacles, and limpets.

Life everywhere! on the earth, in the earth, crawling, creeping, burrowing, boring, leaping, running. If the

sequestered coolness of the wood tempt us to saunter into its chequered shade, we are saluted by the murmurous din of insects, the twitter of birds, the scrambling of squirrels, the startled rush of unseen beasts, all telling how populous is this seeming solitude. If we pause before a tree, or shrub, or plant, our cursory and half-abstracted glance detects a colony of various inhabitants. We pluck a flower, and in its bosom we see many a charming insect busy at its appointed labour. We pick up a fallen leaf, and if nothing is visible on it, there is probably the trace of an insect larva hidden in its tissue, and awaiting their development. The drop of dew upon this leaf will probably contain its animals, visible under the microscope. This same microscope reveals that the *blood-rain* suddenly appearing on bread, and awakening superstitious terrors, is nothing but a collection of minute animals; and that the vast tracts of snow which are reddened in a single night, owe their colour to the marvellous rapidity in reproduction of a minute plant. The very mould which covers our cheese, our bread, our jam, or our ink, and disfigures our damp walls, is nothing but a collection of plants. The many-coloured fire which sparkles on the surface of a summer sea at night, as the vessel ploughs her way, or which drips from the oars in lines of jewelled light, is produced by millions of minute animals.

Nor does the vast procession end here. Our very mother-earth is formed of the debris of life. Plants and animals which have been, build up its solid fabric. We dig downwards, thousands of feet below the surface, and discover with surprise the skeletons of strange, uncouth animals, which roamed the fens and struggled through the woods before man was. Our surprise is heightened when we learn that the very quarry itself is mainly composed of the skeletons of microscopic animals; the flints which grate beneath our carriage wheels are but the remains of countless skeletons. The Apennines and Cordilleras, the

chalk cliffs so dear to homeward-nearing eyes—these are the pyramids of bygone generations of atomies. Ages ago, these tiny architects secreted the tiny shells, which were their palaces; from the ruins of these palaces we build our Parthenons, our St. Peters, and our Louvres.

Cornhill Magazine.

AN APOLOGUE.

THERE was once a small colony planted on a creek of a vast continent. Their soil was very fertile, but its limits were somewhat narrow. However, its size and resources were sufficient for the inhabitants. We said that its limits were narrow. On the landward side it was enclosed by an amphitheatre of rocky mountains, so precipitous that nothing, save the white clouds and the dwindling eagle, could pass over them. On the other side, it looked out on the bulging expanse of the immeasurable main. At the time we speak of, a pestilence had broken out, which made fearful havoc all through the population. It was a dreadful disease, before whose touch the sturdiest manhood crumbled down, and the brightest beauty withered away.

It was not long till two appalling discoveries were made. First, it was found that no one had escaped it; for, though some exhibited its virulence more fearfully than others, the little child in the cradle and the shepherd in the distant plain were smitten, as well as the grown people in the village streets; and next, the doctors declared that it was beyond their skill—they could do nothing for it. Just at the time the plague was raging worst, a stranger appeared and told them there was a cure. He said that there was a plant which healed this disorder, and he described it. He mentioned that it was a lowly plant, not conspicuous nor very arresting to the eye—that it had a red blossom and sweet-scented leaves, and a bruised-looking

stem, and that it was ever-green. He told a number of other particulars regarding it, and, as he could not tarry longer at that time, he left a paper in which, he said, they would find a full description of it, and directions how to find it. The tidings diffused considerable activity through the sickly colony. A plant of such efficacy deserved the most diligent search. Almost all agreed that it must be far away; but a discussion arose whether it lay beyond the cliffs or across the sea. Most thought the latter, and some set to work and built a ship, and when they had launched her, they christened her *Ecclesia*, and hoisted a red-cross flag, and sent round word that the fine ship *Ecclesia* was about to set sail in search of the famous plant, and all who wished to escape the plague, were invited to take passages in this good ship. A few others, however, thought that the ship was going the wrong way, and that they would have better success by trying to get over the cliffs. This was an arduous enterprise; for the precipices were beetling, steep, and extremely high. A few attempts were made to climb by ravines and gullies, which, however, ended in walls of glassy smoothness; and, after many weariful efforts, the climbers either grew dizzy and fell back, or allowed themselves to slide down again to the crumbling debris at the bottom. But others, more inventive, busied themselves constructing artificial wings and aerial engines of various kinds, asceticism, penitential prayers, and such like; and some of them answered exceedingly well for a little, and rose so high that their neighbours really thought they would reach the top; but, after getting a certain height, whether it was owing to the weakness of the materials, or a powerful current which they always met at a certain elevation, and which by a sort of down-draught blew them back from the brow of the mountain, they uniformly found themselves again on the spot from which they first ascended.

A long time had now passed on, and multitudes had

died of the plague without any clearer views of the specific plant; when a poor sufferer who had already gone a fruitless expedition in the ship, and from the severity of his anguish was eager in trying every scheme, lay tossing on his bed. He got hold of a large paper-roll which lay on a shelf beside him. It was very dirty, and the ink was faded, but to while away the time he began to unfold it, and found from the beginning that it was the Book of the Balm of Gilead. He at once suspected that it was the book which the stranger had left so long ago, and wondered how they had suffered it to fall aside, and he had not read far till it told him that if he would only read on, it would put him on the way of finding the Plant of Renown. It gave a full description—many particulars of which he had never heard before—and as he advanced in his feverish earnestness, unrolling it fold by fold, and reading rapidly as he went along, hoping that it would tell him the very spot where he should look for it, he found the plant itself! There it lay in the heart of the long-neglected volume; and LUTHER's eye glistened as he read "Christ is the end of the law for righteousness to every one that believeth." "But where is Christ to be found? Must I ascend the height or descend into the deep? Must I climb these cliffs or cross that sea? Oh! no. Christ is here—nigh me—God's present gift to me conveyed in the volume of this book. I see him. I accept him. I believe." From that moment Christ was Luther's righteousness; and in the flash of sudden joy with which he discovered the Lord his righteousness, though it did not so strike him at the moment, Luther's eternal life began.

HAMILTON.

GIVE ME THY HEART.

WITH echoing steps the worshippers
Departed one by one ;
The organ's pealing voice was stilled,
The vesper hymn was done ;
The shadows fell from roof and arch,
Dim was the incensed air,
One lamp alone with trembling ray,
Told of the Presence there !

In the dark church she knelt alone ;
Her tears were falling fast ;
"Help, Lord," she cried, "the shades of death
Upon my soul are cast !
Have I not shunned the path of sin,
And chosen the better part ?"
What voice came through the sacred air ?—
"My child, give me thy Heart !"

"Have I not laid before Thy shrine
My wealth, oh Lord ?" she cried ;
"Have I kept aught of gems or gold,
To minister to pride ?
Have I not bade youth's joys retire,
And vain delights depart ?"—
But sad and tender was the voice—
"My child, give me thy Heart !"

"Have I not, Lord, gone day by day
Where Thy poor children dwell ;
And carried help, and gold, and food ?
Oh Lord, Thou knowest it well !
From many a house, from many a soul,
My hand bids care depart :"—

More sad, more tender, was the voice—
“*My child, give me thy Heart !*”

“Have I not worn my strength away
With fast and penance sore ?
Have I not watched and wept ?” she cried ;
“Did Thy dear Saints do more ?
Have I not gained Thy grace, oh Lord,
And won in Heaven my part ?”—
It echoed louder in her soul—
“*My child, give me thy Heart !*

“For I have loved thee with a love
No mortal heart can show ;
A love so deep, my Saints in heaven
Its depths can never know ;
When pierced and wounded on the Cross,
Man’s sin and doom were mine,
I loved thee with undying love,
Immortal and divine !

“I loved thee ere the skies were spread ;
My soul bears all thy pains ;
To gain thy love my sacred Heart
In earthly shrines remains :
Vain are thy offerings, vain thy sighs,
Without one gift divine,
Give it, my child, thy Heart to me,
And it shall rest in mine !”

In awe she listened, and the shade
Passed from her soul away ;
In low and trembling voice she cried—
“Lord, help me to obey !

Break Thou the chains of earth, oh Lord,
That bind and hold my heart ;
Let it be Thine, and Thine alone,
Let none with Thee have part.

“Send down, oh Lord, Thy sacred fire !
Consume and cleanse the sin
That lingers still within its depths :
Let heavenly love begin.
That sacred flame Thy Saints have known,
Kindle, oh Lord, in me,
Thou above all the rest for ever,
And all the rest in Thee.”

PROCTER.

EARTHQUAKES.

If we consider the enormous quantities of earth which are heaved up and thrown out by volcanic outbursts—masses which cannot fall back again into the depths within ; if we remember that actions of this kind have been witnessed for thousands of years, that by them mountains have been made to rise, and valleys have been filled up ; if, at the same time, we reflect upon the wide distribution of the volcanoes, and their behaviour altogether ; we must conclude that, in volcanic districts there must be enormous tunnels, and those at very great depths, because they do not impair the general firmness of the outer crust of the earth.

Any violent blow struck upon the ground causes the place, as you know, to tremble. The fall of a wall, or of any building, the blasting of a rock, even the rolling of carriage-wheels over a paved street, may be felt at some distance, through a slight motion of the ground : in the same manner must underground movements become perceptible. Thus, during an outburst of Vesuvius, the whole mountain, and often even the country around at

some distance, is affected with a trembling motion. But such shakings of the earth are the usual forerunners of volcanic discharges ; and if we believe that we are justified in ascribing the latter to the powerful expansion of elastic gaseous bodies, it would be illogical to seek for another cause for the explanation of the former. We may consider them as the endeavours of the vapours confined in the depths below to force for themselves an escape upwards ; endeavours by which they enlarge the channels under the earth, and set in motion the movable masses within them, water and melted rocks, and, here and there, perhaps, heave up and rend the solid crust of the earth, and at last break their way out from their confinement.

The frequent occurrence of earthquakes, especially in volcanic regions, gives us reason to believe that the underground forces are in a state of ceaseless activity, which from time to time results in volcanic outbursts. It is commonly observed, too, that, while frequent shocks occur as the forerunners of an outbreak, it is followed by a long period of rest, until by degrees the hollows in the earth may become again filled with water and steam, and these, by the gradual rise of temperature, may again reach the bursting pitch of elasticity. It will often have been remarked, that the most violent shocks occur in volcanic districts at those times when, by the gradual stopping up of the crater-mouths, a limit has been set to the continual escape of the great masses of vapour. At all events this fact agrees well with the property, which, as you know, belongs to hot water—that while the formation of steam continues, it cannot get above a certain temperature, whatever the heat of the surrounding matter may be, and that, therefore, it cannot attain an elasticity greater than that corresponding to this temperature—and that, if the escape of steam is quite stopped, the water at last must take the temperature of the neighbouring bodies.

The same underground forces, which in volcanic districts

throw up lava and ashes, and heave up the ground, may, by means of the fluids which are within the earth, transmit a part of their action to regions in which volcanic outbursts are quite unknown.

Any shaking given to a surface of water, for instance, by a stone thrown into it, gives rise, as you know, to a set of waves, to an alternate rising and falling of the liquid mass, which is sent onwards in all directions from the point of first movement. If now a solid but flexible body covers the liquid surface, this, too, will share in the motion more or less, according to its liability to stretch or bend. In enclosed masses of liquid, any pressure exerted on them may be sent on through them to very great distances, with scarcely diminished force, and with astonishing speed ; but, especially in cases where the resistance from above is small compared to the force applied, the shock immediately makes itself felt at the surface. You will now understand why an earthquake is perceived almost at the same moment over a wide extent of country. The energy of the powers let loose in the depths of the earth must be the more destructive, as you will at once see, the less the thickness of the solid crust beneath which they are at work. The peculiar violence of earthquakes in all volcanic districts, as well as the volcanic activity itself, bears witness to a quicker increase in such places, from the surface downwards, of the inner heat of the earth.

Since, by reason of the gradual cooling of the surface of the earth from its original state of red heat, its solid crust must formerly have been everywhere thinner than it is now, we may conclude that volcanic actions and shocks must have been far more extensive and frequent in ancient ages than at present ; and, in fact, we find in every country the clearest proofs of volcanic power having been once at work. It has been generally proved by the researches of geologists that the masses of trachyte and basalt, which are so widely spread over the earth, and so nearly related in all their

chemical features to volcanic lava, are, wherever they occur, volcanic products. These rocks have in some places flowed forth just like lava, in others have been heaved up in cones ; they have broken through masses of other strata, and have often been forced, while yet liquid, into all their clefts and crevices.

We may indeed, with a probability which almost amounts to certainty, consider all the great mountain-chains of our earth as volcanic upheavals. Not only do the numerous remains of sea-animals, which we often find on the highest crests of mountains, and of which almost whole strata are made up, lead to this conclusion, but the whole formation and condition of the rocks themselves give unanswerable witness to the fact.

BUFF.

“BEFORE we quit this great phenomenon, we must advert to the cause of that indescribable, deep, and peculiar impression which the first earthquake which we experience makes upon us, even when unaccompanied with subterranean noises. The impression is not, I believe, the consequence of any recollection of destructive catastrophes presented to our imagination by historical narratives. That which seizes upon us so wonderfully is the disabuse of our innate faith in the firmness of the solid and sure-set foundations of the earth. From infancy we are accustomed to the contrast between the movable element of water, and the immovability of the soil on which we stand,—a belief confirmed by the evidence of our senses. But when the ground suddenly rocks beneath us, the feeling of an unknown mysterious power in nature coming into action, and shaking the solid globe, arises in the mind. The illusion of our early life is instantaneously annihilated ! We are undeceived as to the repose of nature—we feel ourselves transported to the realm, and subjected to the empire, of

destructive unknown powers. Every sound—the slightest rustle in the air—sets attention on the rack, and we no longer trust the earth on which we stand. The unusualness of the phenomenon throws the same anxious unrest and alarm over the lower animals. Swine and dogs are particularly affected by it; and the very crocodiles of the Orinoco, otherwise as dumb as our lizards, leave the trembling bed of the stream, and rush bellowing into the woods. To man the earthquake is something unlimited and all-pervading. We can remove from the active crater of a volcano; we can escape from a flood of lava that is pouring down upon our dwelling; but with the earthquake we feel that whithersoever we fly we are still over the hearth of destruction.”

HUMBOLDT.

A TEMPEST.

“Don’t you think that,” I asked the coachman, in the first stage out of London, “a very remarkable sky? I don’t remember to have seen one like it.” “Nor I—not equal to it,” he replied. “That’s wind, sir. There’ll be mischief done at sea, I expect, before long.”

It was a murky confusion—here and there blotted with a colour like the colour of the smoke from damp fuel—of flying clouds tossed up into most remarkable heaps, suggesting greater heights in the clouds than there were depths below them, to the bottom of the deepest hollows in the earth, through which the wild moon seemed to plunge headlong, as if, in a dread disturbance of the laws of nature, she had lost her way and were frightened. There had been a wind all day; and it was rising then, with an extraordinary great sound. In another hour it had much increased, and the sky was more overcast, and it blew hard.

But, as the night advanced, the clouds closing in and

densely overspreading the whole sky, then very dark, it came on to blow, harder and harder. It still increased, until our horses could scarcely face the wind. Many times in the dark part of the night, (it was then late in September, when the nights were not short), the leaders turned about, or came to a dead stop; and we were often in serious apprehension that the coach would be blown over. Sweeping gusts of rain came up before this storm like showers of steel; and, at those times, when there was any shelter of trees or lee walls to be got, we were fain to stop, in a sheer impossibility of continuing the struggle.

When the day broke, it blew harder and harder. I had been in Yarmouth when the seamen said it blew great guns, but I had never known the like of this, or anything approaching to it. We came to Ipswich—very late, having had to fight every inch of ground since we were ten miles out of London; and found a cluster of people in the market-place, who had risen from their beds in the night, fearful of falling chimneys. Some of these, congregating about the inn-yard, while we changed horses, told us of great sheets of lead having been ripped off a high church tower, and flung into a bye street, which they then blocked up. Others had to tell of country people coming in from neighbouring villages, who had seen great trees lying torn out of the earth, and whole ricks scattered about the roads and fields. Still there was no abatement in the storm, but it blew harder.

As we struggled on, nearer and nearer to the sea, from which this mighty wind was blowing dead on shore, its force became more and more terrific. Long before we saw the sea, its spray was on our lips, and showered salt rain upon us. The water was out over miles and miles of the flat country adjacent to Yarmouth; and every sheet and puddle lashed its banks, and had its stress of little breakers setting heavily toward us. When we came within sight of the sea, the waves on the horizon, caught at intervals

above the rolling abyss, were like glimpses of another shore, with towers and buildings. When at last we got into the town, the people came out to their doors, all aslant, and with streaming hair, making a wonder of the mail that had come through such a night.

I put up at the old inn, and went down to look at the sea ; staggering along the street, which was strewn with sand and sea-weed, and with flying blotches of sea foam ; afraid of falling slates and tiles ; and holding by people I met, at angry corners. Coming near the beach, I saw, not only the boatmen, but half the people of the town, lurking behind buildings ; some, now and then braving the fury of the storm, to look away to sea, and blown sheer out of their course in trying to get zig-zag back.

Joining these groups, I found bewailing women, whose husbands were away in herring or oyster boats, which there was too much reason to think might have foundered before they could run in anywhere for safety. Grizzled old sailors were among the people, shaking their heads, as they looked from water to sky, and muttering to one another ; ship-owners excited and uneasy ; children huddling together, and peering into older faces ; even stout mariners disturbed and anxious, levelling their glasses at the sea from behind places of shelter, as if they were surveying an enemy.

The tremendous sea itself, when I could find sufficient pause to look at it, in the agitation of the blinding wind, the flying stones and sand, and the awful noise, confounded me. As the high watery walls came rolling in, and, at their highest tumbled into surf, they looked as if the least would engulf the town. As the receding wave swept back with a hoarse roar, it seemed to scoop out deep caves in the beach, as if its purpose were to undermine the earth. When some white-headed billows thundered on, and dashed themselves to pieces before they reached the land, every fragment of the late whole, seemed possessed by the full might of its wrath, rushing to be gathered to

the composition of another monster. Undulating hills were changed to valleys, undulating valleys (with a solitary storm-bird sometimes skimming through them), were lifted up to hills ; masses of water shivered and shook the beach with a booming sound ; every shape tumultuously rolled on, as soon as made, to change its shape and place, and beat another shape and place away ; the ideal shore on the horizon, with its towers and buildings, rose and fell ; the clouds flew fast and thick ; I seemed to see a rending and upheaving of all nature.

DICKENS.

SUNLIGHT AFTER STORM.

It had been wild weather when I left Rome, and all across the Campagna the clouds were sweeping in sulphurous blue, with a clap of thunder or two, and breaking gleams of sun along the Claudian aqueduct, lighting up the infinity of its arches like the bridge of chaos. But as I climbed the long slope of the Alban Mount, the storm swept finally to the north, and the noble outline of the domes of Albano, and graceful darkness of its ilex grove, rose against pure streaks of alternate blue and amber ; the upper sky gradually flushing through the last fragments of rain-cloud in deep palpitating azure, half ether and half dew. The noon-day sun came slanting down the Rocky slopes of La Riccia, and their masses of entangled and tall foliage, whose autumnal tints were mixed with the wet verdure of a thousand evergreens, were penetrated with it as with rain. I cannot call it colour, it was conflagration. Purple, and crimson, and scarlet, like the curtains of God's tabernacle, the rejoicing trees sank into the valley in showers of light, every separate leaf quivering with buoyant and burning life ; each, as it turned to reflect or to transmit the sun-beam, first a torch and then an emerald. Far up into the

recesses of the valley, the green vistas arched like the hollows of mighty waves of some crystalline sea, with the arbutus flowers dashed along their flanks for foam, and silver flakes of orange spray tossed into the air around them, breaking over the grey walls of rock into a thousand separate stars, fading and kindling alternately as the weak wind lifted and let them fall. Every glade of grass burned like the golden floor of heaven, opening in sudden gleams as the foliage broke and closed above it, as sheet-lightning opens in a cloud at sunset; the motionless masses of dark rock—dark though flushed with scarlet lichen, casting their quiet shadows across its restless radiance, the fountain underneath them filling its marble hollow with blue mist and fitful sound; and over all, the multitudinous bars of amber and rose, the sacred clouds that have no darkness, and only exist to illumine, were seen in fathomless intervals, between the solemn and orbéd repose of the stone pines, passing to lose themselves in the last, white, blinding lustre of the measureless line where the Campagna melted into the blaze of the sea.

RUSKIN.

How calm, how beautiful comes on
The stilly hour when storms are gone!
When warring winds have died away,
And clouds, beneath the dancing ray,
Melt off, and leave the land and sea
Sleeping in bright tranquillity—
Fresh as if day again were born,
Again upon the lap of morn!
When the light blossoms, rudely torn
And scattered at the whirlwind's will,
Hang floating in the pure air still,
Filling it all with precious balm,
In gratitude for this sweet calm:—

And every drop the thunder-showers
Have left upon the grass and flowers
Sparkles, as 'twere that lightning gem
Whose liquid flame is born of them!

When, 'stead of one unchanging breeze,
There blow a thousand gentle airs,
And each a different perfume bears,—

As if the loveliest plants and trees
Had vassal breezes of their own,
To watch and wait on them alone,
And waft no other breath than theirs!
When the blue waters rise and fall,
In sleepy sunshine mantling all.

MOORE.

THE GEYSERS.

IN the neighbourhood of the volcanic mountains of Iceland, the traveller frequently finds his way stopped by frightful rents in the earth, and deep fissures in the lava. He also treads on ground that sounds hollow beneath his feet; and there he sometimes hears the rushing of water in the concealed chasms over which he is walking, and at other times, where apertures occur in the thin crust of the earth, he sees steam issuing forth from the subterranean conduits and towering in the air.

The volcanic fires which pour forth such tremendous eruptions from Mount Hecla, the Yokuls, and other craters, though, generally speaking, they do not exert their more terrific energies except after intervals of years, are yet not extinct, but, burning unseen, extend far from the craters themselves, and convert the waters that flow near them into boiling fluid and highly rarefied vapour, which at certain vents maintain perennial eruptions. Instead of

fire, smoke, liquid lava, lapilli, and ashes, these vents or aqueous craters discharge columns of steam and spouts of boiling water ; and instead of years, in most cases only a few hours intervene between their efforts.

The most important of these issues are at Haukadal, considerably in the rear of Hecla, whose three snow-clad summits, towering over a ridge of intervening hills, are, however, visible from the spot. Here, within a very limited space, are some dozens of geysers, the clouds of vapour they are constantly emitting being visible at the distance of several miles. The most important of the fountains at Haukadal is called the "Great Geyser," and as it seems to be the greatest in Iceland, we shall more particularly describe it.

Whatever may be the activity of the numerous fountains that surround it, the Great Geyser is always the prominent object in the extraordinary scene. It is surrounded by a large circular mound formed by the earth and matter it has ejected and deposited during the course of ages. Internally this mound is hollow, presenting a basin about one hundred and fifty feet in circumference, which is ordinarily filled to the depth of about four feet with boiling water, beautifully clear and crystalline. In the middle of this basin a pipe or funnel, about ten feet in diameter, but wider at top, descends perpendicularly in the earth to the depth of nearly eighty feet. It is this tube that is the vent of the subterranean action of fire and water. The bottom and sides of the basin within the mound, are covered with whitish siliceous incrustations rendered perfectly smooth by the constant action of boiling water. Two small channels open from the sides of the basin and allow almost constant passage to some of the water. This water, still hot and strongly impregnated with mineral matter, on leaving the mound flows through a turfy kind of soil, and by acting on the peat, mosses, and grass, gradually produces some of the most beautiful specimens of

petrification. Leaves of the birch, and of the other stunted trees which grow in that inhospitable climate, are also found incrustated, so as to appear as of white stone, yet still preserving not merely their general form but their minutest fibres unaltered.

All the Icelandic travellers agree in representing the eruptions of the Great Geyser as occurring at irregular intervals. Low reports and slight concussions of the ground give the first signal of coming violence. These symptoms are succeeded by a few jets thrown up by the pipe or funnel in the centre of the basin, and then, after a pause of a greater or less number of minutes, a rumbling noise is heard underground, louder reports succeed, and concussions strong enough to shake the whole mound; in the interior of which the water boils with increased violence, and overflows the edges of the capacious basin. Other reports soon follow, being louder and more rapid than the preceding, and not unlike the discharge of a park of artillery. Then, with an astounding roar and immense velocity, the water rushes through the pipe, and rises into the air in irregular jets, which are surrounded and almost concealed by accompanying volumes of steam. To these first jets loftier and more defined ones succeed, and there is generally a central or main jet presenting a column of boiling water from nine to twelve feet in diameter, and from fifty to seventy feet in height, on an average. Sometimes the main jet exceeds a hundred feet in height, and other geysers are said to throw water, though not in such volume, to a greater elevation. As the jets of the Great Geyser issue from the central pipe, the water in the basin near to the pipe is raised about a foot and a-half, and as the columns descend into the orifice whence they were ejected the water everywhere overflows. Unlike the eruptions of fire from the crater of a volcano, which often last for days without any apparent diminution or pause, these boiling fountains seldom play longer than six or seven

minutes at a time. Then the action of the central pipe ceases ; dense steam covers for awhile the basin ; and when that moves off, nothing is seen but a sheet of clear, hot water, and all is quiet, until, after an interval of some hours, faint reports announce the approach of a fresh eruption.

HENDERSON.

BEAVER TRAPPING.

It is now day. The upper edge of the sun has just risen, red and frosty looking, in the east, and countless myriads of icy particles glitter on every tree and bush in its red rays ; while the white tops of the snow-drifts, which dot the surface of the small lake at which we have just arrived, are tipped with the same rosy hue. The lake is of considerable breadth, and the woods on its opposite shore are barely visible. An unbroken coat of pure white snow covers its entire surface, while here and there a small islet, covered with luxuriant evergreens, attracts the eye, and breaks the sameness of the scene. At the extreme left of the lake, where the points of a few bulrushes and sedgy plants appear above the snow, are seen a number of small earthy mounds, in the immediate vicinity of which the trees and bushes are cut and barked in many places, while some of them are nearly cut down. This is a colony of beaver. In the warm months of summer and autumn, this spot is a lively stirring place, as the beavers are then employed *nibbling* down trees and bushes for the purpose of repairing their dams, and supplying their store-houses with food. The bark of willows is their chief food, and all the bushes in the vicinity are more or less cut through by these persevering little animals. Their dams, however, (which are made for the purpose of securing to themselves a constant sufficiency of water) are made with large trees ; and

stumps will be found, if you choose to look for them, as thick as a man's leg, which the beavers have entirely nibbled through, and dragged by their united efforts many yards from where they grew.

Now, however, no sign of animal life is to be seen, as the beaver keeps within doors all winter: yet I venture to state that there are many now asleep under the snow before us. It is not, reader, merely for the purpose of showing you the outside of a beaver lodge that I have brought you such a distance from human habitations. Be patient and you shall soon see more. Do you observe that small black speck moving over the white surface of the lake, far away on the horizon? It looks like a crow, but the forward motion is much too steady and constant for that. As it approaches it assumes the form of a man, and at last the figure of an Indian, dragging his empty sleigh behind him, becomes clearly distinguishable through the dreamy haze of the cold wintry morning. He arrives at the beaver-lodges, and, I warrant, will soon create some havoc among the inmates.

His first proceeding is to cut down several stakes, which he points at the ends. These are driven, after he has cut away a good deal of ice from around the beaver-lodge, into the ground between it and the shore. The reason of this is to prevent the beaver from running along the passage which they always have from their lodges to the shore, where their store-house is kept, which would make it necessary to excavate the whole passage. The beaver, if there are any, being thus imprisoned in the lodge, the hunter next proceeds to stake up the opening into the store-house on shore, and so imprison those that may have fled there for shelter on hearing the noise of his axe at the other house. Things being thus arranged to his entire satisfaction, he takes an instrument called an ice-chisel, which is a bit of steel about a foot long, by one inch broad, fastened to the end of a stout pole, wherewith he

proceeds to dig through the lodge. This is by no means an easy operation; and although he has covered the snow around him with great quantities of mud and sticks, yet his work is not half finished. In process of time, however, the interior of the hut is laid bare, and the Indian, stooping down, gives a great pull, when out comes a large, fat, sleepy beaver, which he flings sprawling on the snow. Being thus uncereemoniously awakened from its winter nap, the shivering animal looks languidly round, and even goes the length of making a face at his captor by way of showing his teeth, for which it is rewarded with a blow on the head from the pole of the ice-chisel, which puts an end to it. In this way several more are killed, and packed on the sleigh. The hunter then turns his face towards his encampment, and goes off at a tremendous pace, dashing the snow in clouds from his snow-shoes, as he hurries over the trackless wilderness to his forest home. BALLANTYNE.

GRAINS OF DUST.

THE Physical Earth presents to us, in every form of organic and inorganic matter, an infinite variety of phenomena. If we select specimens of rocks, either crystalline or stratified,—of metals in any of their various combinations with oxygen, sulphur, and other bodies,—of gems glistening with light and glowing with colour,—if we examine the varied forms and hues of the vegetable world, or the more mysterious animal creations, we must inevitably come to the conclusion, long since proclaimed, and admit that dust they are, and to dust must they return. Whatever permanency may be given to matter, it is certain that its form is ever in a state of change. The surface of the “Eternal Hills” is worn away by the soft rains which fall to fertilize, and from their wrecks, borne by the waters to the

ocean, new continents are forming. The mutations of the old earth may be read upon her rocks and mountains, and these records of former changes tell us the infallible truth, that as the present passes into the future, so will the form of the Earth undergo an important alteration. The same forces which lifted the Andes and the Himalayas are still at work, and from the particles of matter carried from the present lands by the rivers into the sea, where they subside in stratified masses, there will, in the great future, be raised new worlds, upon which the work of life will go forward, and over which will be spread a vast Intelligence.

If we regard the conditions of the beautiful and varied organic covering of the Earth, the certainty, the constancy, of change is ever before us. Man, moving to-day the monarch of a mighty people, in a few years passes back to his primitive clod, and that combination of elementary atoms, which is dignified with the circle of sovereignty and the robe of purple, after a period may be sought for in the herbage of the fields, or in the humble flowers of the valley.

We have, then, this certain truth,—all things visible around us are but aggregations of atoms. From particles of dust, which under the microscope could scarcely be distinguished one from the other, are all the varied forms of nature created. This grain of dust, this particle of sand, has strange properties and powers. Science has discovered some truths, but still more are hidden within this irregular molecule of matter which we now survey, than have yet been shadowed in the dreams of our philosophy. How strangely it obeys the impulses of heat—mysterious are the influences of light upon it—electricity wonderfully excites it—and still more curious is the manner in which it obeys the magic of chemical force. These are phenomena which we have seen; we know them, and we can reproduce them at our pleasure. We have advanced a little way into the secrets of nature, and from the spot we have

gained, we look forward with a vision somewhat brightened by our task; but we discover so much to be yet unknown, that we learn another truth,—our vast ignorance of many things relating to this grain of dust.

It gathers around it other particles; they cling together, and each acting upon every other one, and all of them arranging themselves around the little centre according to some law, a beautiful crystal results, the geometric perfection of its form being a source of admiration.

It exerts some other powers, and atom cohering to atom, obeying the influences of many external radiant forces, undergoes inexplicable changes, and the same dust which we find forming the diamond, aggregates into the lordly tree,—blends to produce the graceful, scented, and richly painted flower,—and combines to yield the luxury of fruit.

It is quickened with yet undiscovered energies; it moves with life: dust is stirred by the mysterious excitement of vital force; and blood and bone, nerve and muscle, are the results. Forces, which we cannot by the utmost refinements of our philosophy detect, direct the whole, and from the same dust which formed the rock and grew in the tree, is produced a living and a breathing thing, capable of receiving a Divine illumination, of bearing in its new state the gladness and the glory of a Soul. HUNT.

THE DEATH OF KEELDAR.

UP rose the sun, o'er moor and mead;
Up with the sun rose Percy Rede;
Brave Keeldar, from his couples freed,
Career'd along the lea;
The Palfrey sprung with sprightly bound,
As if to match the gamesome hound;
His horn the gallant huntsman wound:
They were a jovial three!

Man, hound, or horse, of higher fame,
To wake the wild deer never came,
Since Alnwick's Earl pursued the game
 On Cheviot's rueful day;
Keeldar was matchless in his speed,
Than Tarras, ne'er was stancher steed,
A peerless archer, Percy Rede:
 And right dear friends were they.

The chase engross'd their joys and woes,
Together at the dawn they rose,
Together shared the noon's repose,
 By fountain or by stream;
And oft, when evening skies were red,
The heather was their common bed,
Where each, as wildering fancy led,
 Still hunted in his dream.

Now is the thrilling moment near,
Of silvan hope and silvan fear,
Yon thicket holds the harbour'd deer,
 The signs the hunters know;—
With eyes of flame, and quivering ears,
The brake sagacious Keeldar nears;
The restless palfrey paws and rears;
 The archer strings his bow.

The game's afoot!—Halloo! Halloo!
Hunter, and horse, and hound pursue;—
But woe the shaft that erring flew—
 That e'er it left the string!
And ill betide the faithless yew!
The stag bounds scathless o'er the dew,
And gallant Keeldar's life-blood true
 Has drench'd the grey-goose wing.

The noble hound—he dies, he dies,
Death, death has glazed his fixed eyes,
Stiff on the bloody heath he lies,

Without a groan or quiver.

Now day may break and bugle sound,
And whoop and hollow ring around,
And o'er his couch the stag may bound,
But Keeldar sleeps for ever.

Dilated nostrils, staring eyes,
Mark the poor palfrey's mute surprise,
He knows not that his comrade dies,

Nor what is death—but still

His aspect hath expression drear,
Of grief and wonder, mix'd with fear,
Like startled children when they hear
Some mystic tale of ill.

But he that bent the fatal bow,
Can well the sum of evil know,
And o'er his favourite, bending low,
In speechless grief recline;
Can think he hears the senseless clay,
In unreproachful accents say,
“The hand that took my life away,
Dear master, was it thine?”

“And if it be, the shaft be bless'd,
Which sure some erring aim address'd,
Since in your service prized, caress'd,
I in your service die:
And you may have a fleeter hound,
To match the dun-deer's merry bound,
But by your couch will ne'er be found
So true a guard as I.”

And to his last stout Percy rued
The fatal chance, for when he stood
'Gainst fearful odds in deadly feud,
And fell amid the fray,
E'en with his dying voice he cried,
"Had Keeldar but been at my side,
Your treacherous ambush had been spied—
I had not died to-day!"

SCOTT.

ADVENTURE WITH A BUFFALO.

CAPTAIN Methuen gives the following graphic account of an encounter with a buffalo, which the Cape colonists consider a more dangerous foe than the lion himself. The gallant captain and his party had discovered a herd of buffaloes, and had wounded some, but they had escaped to cover. He had climbed on the low boughs of a small *wait-a-bit* thorn, whence he struck another bull. The wounded animal "ran towards the report, his ears outstretched, his eyes moving in all directions, and his nose carried in a right line with the head, evidently bent on revenge; he passed within thirty yards of me, and was lost in the bush. Descending from my frail perch, Frolic [the Hottentot attendant] again discovered this buffalo standing amongst some small thick bushes, which nearly hid him from view; his head was lowered, not a muscle of his body moved, and he was without doubt listening intently. We crept noiselessly to a bush, and I again fired. The huge brute ran forwards up the wind, fortunately not in our direction, and stood still again. No good screen being near, and his nose facing our way, prudence bade us wait patiently for a change in the state of affairs. Presently he lay gently down, and knowing that buffaloes are exceedingly cunning, and will adopt this plan merely to escape

notice and entrap their persecutors, we drew near with great caution. I again fired through his shoulder, and concluding from his not attempting to rise, that he was helpless, we walked close up to him ; and never can the scene which followed be erased from my memory. Turning his ponderous head round, his eye caught our figures ; I fired the second barrel of my rifle behind his horns, but it did not reach the brain. His wounds gave him some difficulty in getting up, which just afforded Moneypenny and myself time to ensconce ourselves behind the slender shrubs that grew round the spot, while Frolic unwisely took to his heels. The buffalo saw him, and uttering a continued unearthly noise, between a grunt and a bellow, advanced at a pace at which these unwieldy creatures are rarely seen to run, unless stirred by revenge.

“Crashing through the low bushes, as if they were stubble, he passed me, but charged quite over Moneypenny’s lurking-place, who aimed at him as he came on, and lodged the ball in the rocky mass of horn above his head : the buffalo was so near at the time of his firing, that the horn struck the gun-barrels at the next instant ; but whether the noise and smoke confused the animal, or he was partially stunned by the bullet, he missed my friend, and continued his pursuit of Frolic.

“The Hottentot dodged the enraged and terrific-looking brute round the bushes, but through these slight obstacles he dashed with ease, and gained ground rapidly. Speechless, we watched the chase, and, in the awful moment, regardless of concealment, stood up, and saw the buffalo overtake his victim and knock him down. At this crisis, my friend fired his second barrel into the beast, which gave Frolic one or two blows with his fore-feet, and pushing his nose under, endeavoured to toss him ; but the Hottentot, aware of this, lay with much presence of mind perfectly still.

“Moneypenny now shouted to me, ‘The buffalo is coming ;’ and, in darting round a bush, I stumbled on my rifle,

cutting my knee very badly. This proved a false alarm ; and directly after the buffalo fell dead by Frolic, who then rose and limped towards us. He was much hurt, and a powder-flask which lay in his game-bag was stamped flat. The buffalo was too weak to use his full strength upon him, having probably exhausted all his remaining energy in the chase : otherwise the 'Hottentot' would undoubtedly have been killed, since a man is safer under the paws of a wounded lion, than under the head of an infuriated buffalo. Never did I feel more grateful to a protecting Providence, than when this poor fellow came to us ; for his escape without material injury was little short of miraculous."

Romance of Natural History.

THE ROCKY SEA SHORE.

IN the vegetation of the sea, Nature has provided both shelter and food for an infinitude of animals. Were we to speak of the *uses* of sea-weeds, and confine ourselves to their adaptation to the wants of man, we should much misinterpret the office which this portion of the vegetable world discharges in the general economy. However great their uses to man, these are absolutely insignificant in comparison to those benefits for which the lower tribes of animated nature are indebted to the sea-weeds. Troop after troop of animals, one more highly organized than another, either derives its nourishment from the sea-weed itself, or uses the submarine forest as a hunting-ground, where it fulfils the appointed course of its busy life. Adhering to the roots of sea-weeds we find the scarcely organized, but obviously animated Sponge, whose place in the scale of creation seems so nearly balanced between the animal and the vegetable that naturalists have debated to which of the kingdoms it properly belongs. To the stems

and leaves adhere multitudes of incrusting animals, some of which, till we examine them somewhat closely, and watch their animal motions and propensities with some care, seem to consist merely of masses of jelly; while others display, in their outward forms, the branching appearance of mosses, every branch clothed with scales, and crowned, when the animal is in vigour, with starry flowers. The rocks from which the sea-weeds spring, afford a resting place to stationary animals, which, in the shelter of these submerged groves, watch the approach of prey; and through the branches, in every direction, tribes as different from each other in form and structure as it is possible to conceive, sport and multiply, and contend in ceaseless motion. No spot of rock is absolutely desert, and no sea-weed grows that does not support its multitude of living things. The zoologist, therefore, on any rocky shore may find abundant occupation; and he who does not limit himself to the mere collection and determination of new species, but enters into the more noble departments of his science—Anatomy and Physiology,—will in the most barren places find animals, the investigation of whose history will afford him constant sources of pleasure.

SPONGES.—At the base of the animal scale, and apparently in close connection with the vegetable kingdom, yet, when closely examined, resembling no vegetable in organization, is found the family of Sponges, a considerable number of which inhabits the shores of the British Islands. The outward forms of Sponges are exceedingly sportive, and even the same species, at different periods of its life, or under the influence of different circumstances, often exhibits an outward aspect of very opposite character. Some are, indeed, tolerably constant in form, especially the branching species; but the majority are shapeless, or assume a form depending in great measure on the objects in connection with them. It thus becomes necessary, in studying the Sponges, to acquaint ourselves intimately with the exact structure of the skele-

ton. The spongy body is of the simplest nature ; it consists of a horny or sometimes stony net-work, composed of innumerable interlacing fibres, connected together and inosculating, till a porous mass, full of holes and passages, is the result. This is the skeleton, and such is seen in the common Sponges in every-day use. When the creature is alive, every portion of the horny fibre is coated over with a semifluid slimy matter, like a half-consistent jelly, seemingly inert and unorganized, and yet the seat of whatever life the Sponge contains. It is by this slime, which may be pressed out with the finger, that the network is deposited, and from it the whole growth of the mass proceeds. The slimy substance is apparently void of sensation, for it does not shrink when wounded ; and the only motion resembling animal life which the mature Sponge exhibits is in the imbibition and expulsion of continuous currents of water. If any species of Sponge be examined, the holes with which the substance is everywhere pierced may be seen to be of two kinds, one of larger size than the rest, few in number, and opening into wide channels, or tunnels, which pierce the Sponge through its centre ; the other minute, extremely numerous, covering the whole surface, and communicating with the innumerable branching passages which make up the body of the skeleton. According to the observations of Dr. Grant, water is freely imbibed through the smaller holes, and continuously expelled in jets through the larger, as long as the animal retains life. These currents may be seen if a small specimen of a living Sponge be placed in a watch-glass, or other shallow vessel of salt-water, and examined through the microscope ; and it appears to be through their agency that the substance is nourished. Nourishing particles dispersed through the water are received into the universal stomach, and what is not required is ejected through the canals.

HARVEY.

RUINS OF NINEVEH.

BEFORE leaving Nimroud and reburying its palaces, I would wish to lead the reader once more through the ruins of the principal edifice, and to convey as distinct an idea as I am able of the excavated halls and chambers.

We will descend into the principal trench, by a flight of steps rudely cut in the earth, near the western face of the mound. As we approach it, we find a party of Arabs bending on their knees, and intently gazing at something beneath them. Each holds his long spear, tufted with ostrich feathers, in one hand ; and in the other the halter of his mare, which stands patiently behind him. The party consists of a Bedouin Sheikh from the desert, and his followers ; who, having heard strange reports of the wonders of Nimroud, have made several days' journey to remove their doubts and satisfy their curiosity. He rises as he hears us approach, and if we wish to escape the embrace of a very dirty stranger we had better at once hurry into the trenches.

We descend about twenty feet, and suddenly find ourselves between a pair of colossal lions, winged and human-headed, forming a portal. I have already described my feelings when gazing for the first time on these majestic figures. Those of the reader would probably be the same, particularly if caused by the reflection, that before those wonderful forms Ezekiel, Jonah, and others of the prophets stood, and Sennacherib bowed ; that even the patriarch Abraham himself may possibly have looked upon them.

In the subterraneous labyrinth which we have reached, all is bustle and confusion. Arabs are running to and fro ; some bearing baskets filled with earth, others carrying water-jars to their companions. The Chaldeans, in their striped dresses and conical felt caps, are digging with picks

into the tenacious earth, raising a dense cloud of fine dust at every stroke. The wild strains of Kurdish music may be occasionally heard issuing from some distant part of the ruins, and if they are caught by the parties at work, the Arabs join their voices in chorus, raise the war-cry, and labour with renewed energy. Leaving behind us a small chamber, in which the sculptures are distinguished by a want of finish in the execution, and considerable rudeness in the design of the ornaments, we issue from between the winged lions, and enter the remains of the principal hall. On both sides of us are colossal winged figures : some with the heads of eagles, others entirely human, and carrying mysterious symbols in their hands. To the left is another portal, also formed by winged lions. One of them has, however, fallen across the entrance, and there is just room to creep beneath it. Beyond this portal is a winged figure, and two slabs with bas-reliefs ; but they have been so much injured that we can scarcely trace the subject upon them. Further on there are no traces of wall, although a deep trench has been opened. The opposite side of the hall has also disappeared, and we only see a high wall of earth. On examining it attentively, we can detect the marks of masonry ; and we soon find that it is a solid structure built of bricks of unbaked clay, now of the same colour as the surrounding soil, and scarcely to be distinguished from it.

The slabs of alabaster, fallen from their original position, have, however, been raised ; and we tread in the midst of a maze of small bas-reliefs, representing chariots, horsemen, battles, and sieges. Perhaps the workmen are about to raise a slab for the first time ; and we watch, with eager curiosity, what new event of Assyrian history, or what unknown custom or religious ceremony, may be illustrated by the sculpture beneath.

Having walked about one hundred feet amongst these scattered monuments of ancient history and art, we reach

another door-way, formed by colossal winged bulls in yellow limestone. One is still entire ; but its companion has fallen, and is broken into several pieces—the great human head is at our feet.

We pass on without turning into the part of the building to which this portal leads. Beyond it we see another winged figure, holding a graceful flower in its hand, and apparently presenting it as an offering to the winged bull. Adjoining this sculpture we find a perfect series of highly-finished bas-reliefs. There is the king, slaying the lion and wild bull, engaged in battles and in sieges, and receiving as captives the chiefs of the conquered people. We have now reached the end of the hall, and find before us an elaborate and beautiful sculpture, representing two kings, standing beneath the emblem of the supreme deity, and attended by winged figures. Between them is the sacred tree. In front of this bas-relief is the great stone platform, upon which, in days of old, may have been placed the throne of the Assyrian monarch, when he received his captive enemies, or his courtiers.

As we gaze upon these singular sculptures the description of Ezekiel is brought vividly to our minds. The prophet, in typifying the corruptions which had crept into the religious system of the Jews, and the idolatrous practices they had borrowed from the strange nations with which they had been brought into contact, thus illustrates the influence of the Assyrians. "She saw men portrayed upon the wall, the images of the Chaldeans portrayed with vermillion, girded with girdles upon their loins, exceeding in dyed attire upon their heads, all of them princes to look to, after the manner of the Babylonians of Chaldea, the land of their nativity." The prophet is prophesying on the banks of the Chebar, or Khabour, in the immediate vicinity of Nineveh, previous to the destruction of the Assyrian capital, an event which he most probably witnessed. He points out the rich and highly ornamented

head-dress of the sculptured kings, and evidently alludes to the prevalence of that red colour, remains of which are so frequent in the ruins of Nimroud and Khorsabad. Nor can the resemblance between the symbolical figures pictured on the walls and those seen by Ezekiel in his vision fail to strike us. As the prophet had beheld the Assyrian palaces, with their mysterious images and gorgeous decorations, it is highly probable that, when seeking to typify certain divine attributes, and to describe the divine glory, he chose forms that were not only familiar to him, but to the people whom he addressed, captives like himself in the land of Assyria. He chose the four living creatures, with four faces, *four wings, and the hands of a man under their wings on the four sides*, the faces being those of a man, a lion, an ox, and an eagle,—the four creatures continually introduced on the sculptured walls,—and by them was a wheel, the appearance of which “was as a wheel in the middle of a wheel.”

LAYARD.

NIGHT CRY TO GOD.

It is not sad
That Thou so long hast laid me low,
And made me weary ;—I am glad,
Though few of Thy designs I know.

The hand of One
Who took the guilt that bound me long,
And put it on His only Son,
Can never do my soul a wrong.

Smite on, my God,
And though the strokes be hard to bear,
In peace I bow beneath Thy rod,
And cry not unto Thee to spare.

Thou wilt not break,
But only bend this heart of mine ;
And if such blows the process take,
Do Thy good pleasure,—I am Thine.

Thou would'st that He
Who ransomed me from death and hell,
The travail of His soul should see ;
And let it be so. It is well.

I too desire
To glorify my Lord who died,
And be refined—although with fire—
That Jesus may be satisfied.

But stay Thou near,
To soothe me if I sometimes weep :
And through the trial, Father dear,
My trembling spirit safely keep. H. MARY T.

GOD THE ONLY COMFORTER.

O Thou ! who dry'st the mourner's tear,
How dark this world would be,
If, when deceived and wounded here,
We could not fly to Thee !

The friends, who in our sunshine live,
When winter comes, are flown ;
And he who has but tears to give,
Must weep those tears alone.

But Thou wilt heal that broken heart,
Which, like the plants that throw
Their fragrance from the wounded part,
Breathes sweetness out of woe !

When joy no longer soothes or cheers,
 And e'en the hope that threw
 A moment's sparkle o'er our tears,
 Is dimm'd and vanish'd too !—

Oh, who would bear life's stormy doom,
 Did not thy Wing of Love
 Come, brightly wafting through the gloom,
 One Peace-branch from above ?

Then sorrow, touch'd by Thee, grows bright
 With more than rapture's ray ;
 As darkness shows us worlds of light
 We never saw by day !

T. MOORE.

SUNRISE.

As on my bed at morn I mus'd and pray'd,
 I saw my lattice figur'd on the wall,
 The flaunting leaves and flitting birds withal—
 A sunny phantom interlac'd with shade ;
 "Thanks be to heaven !" in happy mood I said ;
 "What sweeter aid my matins could befall
 "Than this fair glory from the east hath made ?
 "What holy sleights hath God, the Lord of all,
 "To make us feel and see ! We are not free
 "To say we see not, for the glory comes
 "Nightly and daily like the flowing sea ;
 "His lustre pierceth through the midnight glooms,
 "And, at prime hour, behold, He follows me
 "With golden shadows to my secret rooms !"

TURNER.

INSTINCT AND REASON.

My observations of nature have all tended to lead me to think, that if our race has been pre-eminently distinguished by receiving the full light of reason, some sparks and glimmerings of the same Divine faculty have been vouchsafed by the same forming and almighty hand to our inferior fellow-creatures.

It is no doubt exceedingly difficult, and perhaps impossible, to define where instinct ends and reason begins in animals. But that some of them are endowed with a faculty which does not come under the usual notion of instinct, will, I think, hardly allow of a dispute. That which appears to me most decidedly to carry the faculties of animals to something exceeding the measure and character of instinct, is the new and ingenious contrivances to which they will often have recourse, in situations and upon occasions, much too accidental and peculiar to admit of our imagining that they could have been contemplated and provided against in the regular instinct of the whole species. Instinct, we should naturally be disposed to conceive, must have been given to regulate the ordinary habits of the animals, and adapted to those exigencies of their mode of life which are continually occurring, not to such as do rarely, and might, one would be tempted to say, never occur. A few instances will, perhaps, better explain what I mean, and carry more persuasion than a mere argument.

I was one day feeding an elephant with potatoes, which he took out of my hand. One of them, a round one, fell on the floor, just out of the reach of his proboscis. He leaned against his wooden bar, put out his trunk, and could just touch the potato, but could not pick it up. After several ineffectual efforts, he at last *blew* the potato against the opposite wall with sufficient force to make it rebound, and he then, without difficulty, secured it. Now

it is quite clear, I think, that instinct never taught the elephant to procure his food in this manner ; and it must therefore have been reason, or some intellectual faculty, which enabled him to be so good a judge of cause and effect. Indeed, the *reflecting* power of some animals is quite extraordinary. I had a dog who was much attached to me, and who, in consequence of his having been tied up on a Sunday morning, to prevent his accompanying me to church, would conceal himself in good time on that day, and I was sure to find him either at the entrance of the church, or, if he could get in, under the seat where I usually sat.

A gentleman, a good shot, lent a favourite old pointer to a friend who had much more to accuse himself of in frightening than in slaughtering partridges. After ineffectually firing at some birds which the old pointer had found for him, the dog turned away in apparent disgust, went home, and never could be persuaded to accompany the same person afterwards.

I have been often much delighted with watching the manner in which some of the old bucks in Bushy Park contrive to get the berries from the fine thorn-trees there. They will raise themselves on their hind legs, give a spring, entangle their horns in the lower branches of the tree, give them one or two shakes, which make some of the berries fall, and then quietly pick them up.

A fly-catcher had built its nest in a pear-tree against my garden-wall, and I had once or twice stopped and looked at the bird as she sat on her nest. Coming one morning, and looking for the nest, I could not find it for some time, but at last discovered it completely altered in appearance, the external parts of it being now in some degree assimilated to its situation. Some of the leaves of the pear-tree also seemed to have been drawn more over the nest, as if for the purpose of concealment.

Bees show great ingenuity in obviating the inconveni-

ence they experience from the slipperiness of glass, and certainly beyond what we can conceive that mere instinct would enable them to do. I am in the habit of putting small glass globes on the top of my straw hives, for the purpose of having them filled with honey ; and I have invariably found that before the bees commence the construction of combs, they place a great number of spots of wax at regular distances from each other, which serve as so many foot-stools, on the slippery glass, each bee resting on one of these with its middle pair of legs, while the fore claws were hooked with the hind ones of the bee next above him ; thus forming a ladder, by means of which the workers were enabled to reach the top, and begin to make their combs there.

Dr. Bevan, in his very agreeable work on the honey-bee, mentions another very striking illustration of its reasoning powers. He says that a friend of his, on inspecting his bee-boxes, perceived that a centre comb, burdened with honey, had parted from its attachments, and was leaning against another comb, so as to prevent the passage of the bees between them. This accident excited great activity in the colony, but of what nature could not be ascertained at the time. At the end of a week, the weather being cold, and the bees clustered together, it was observed, through the window of the box, that they had constructed two horizontal pillars between the combs alluded to, and had removed so much of the honey and wax from the top of each, as to allow the passage of a bee ; in about ten days more there was an uninterrupted thoroughfare ; the detached comb at its upper part had been secured by a strong barrier, and fastened to the window with the spare wax. This being accomplished, the bees had removed the horizontal pillars first constructed, as being of no further use. The power which bees possess of ventilating their hives, and of producing such a temperature as will prevent the wax from melting in hot weather, is, I think, another proof

that something more than mere instinct influences their conduct ; as, in their natural state, bees are probably not in so confined a space as they are in our common straw hives, or exposed so much to the heat of the sun. In hot weather, a number of bees (the number probably being regulated by the state of the atmosphere) may be observed busily employed at the bottom of the hive, moving their wings with so much rapidity, that the motion of them is almost imperceptible. If, while this action is going forward, a lighted candle should be held at the opening on the top of the hive, it will immediately be blown out ; a fact which proves the strong current of air produced by these insects from the motion of their wings. I have, however, known instances, in extreme hot weather, when all the labours of the bees to keep the hive in a proper temperature have failed, and a part of the wax has melted. In this case it is dangerous to go near the hive. The bees are in a state of extreme irritation, and though I fancy that mine know me and receive me as a friend, and allow me sometimes to interfere with them with impunity, yet, at the time referred to, I have suffered from their stings in endeavouring to shelter them more effectually from the heat of the sun.

I have often watched a wasp taken in the web of a spider. The spider seems to be so perfectly aware that the wasp has the power of annoying him with its sting, that he carefully avoids coming in contact with it, but winds threads round and round it till the wasp can neither escape nor do any injury. When it is dead, the spider feeds upon it.

There is a spider found in Jamaica which makes its nest in the earth, of grass, moss, &c., and afterwards plasters it over with clay. The inside is lined with a silky membrane, smooth, and of a whitish grey, with a valve of the same texture. When the spider wants to secure itself in the nest, it fastens this valve with its silky threads, so that a resistance is perceived when the fingers are applied to re-

move it. Probably the spider is in dread of some enemy, which obliges it to have recourse to this ingenious contrivance for defending itself and preserving its young. In the Bermuda Islands there are spiders which spin their webs between trees that stand eight or nine yards asunder. This they do by darting their threads in the air, and the wind carries them from one tree to the other. This web, when finished, is sufficiently strong to entangle a bird. The fact of spiders throwing out a thread in order to facilitate their approach to a neighbouring object, is now perfectly well ascertained.

JESSE.

THE BURNING OF MOSCOW.

On the 14th September, 1812, while the rear-guard of the Russians were in the act of evacuating Moscow, Napoleon reached the hill called the Mount of Salvation, because it is there where the natives kneel and cross themselves at first sight of the Holy City.

Moscow seemed lordly and striking as ever, with the steeples of its thirty churches, and its copper domes glittering in the sun; its palaces of Eastern architecture mingled with trees, and surrounded with gardens; and its Kremlin, a huge triangular mass of towers, something between a palace and a castle, which rose like a citadel out of the general mass of groves and buildings. But not a chimney sent up smoke, not a man appeared on the battlements, or at the gates. Napoleon gazed every moment, expecting to see a train of bearded boyards arriving to fling themselves at his feet, and place their wealth at his disposal. His first exclamation was, "Behold at last that celebrated city!"—His next, "It was full time!" His army, less regardless of the past or the future, fixed their eyes on the goal of their wishes, and a shout of "Moscow!—Moscow!"—passed from rank to rank.

When he entered the gates of Moscow, Bonaparte, as if unwilling to encounter the sight of the empty streets, stopped immediately on entering the first suburb. His troops were quartered in the desolate city. During the first few hours after their arrival, an obscure rumour, which could not be traced, but one of those which are sometimes found to get abroad before the approach of some awful certainty, announced that the city would be endangered by fire in the course of the night. The report seemed to arise from those evident circumstances which rendered the event probable, but no one took any notice of it, until at midnight, when the soldiers were startled from their quarters by the report that the town was in flames. The memorable conflagration began amongst the coachmakers' warehouses and workshops in the Bazaar, or general market, which was the richest district of the city. It was imputed to accident, and the progress of the flames was subdued by the exertions of the French soldiers. Napoleon, who had been roused by the tumult, hurried to the spot; and when the alarm seemed at an end, he retired, not to his former quarters in the suburbs, but to the Kremlin, the hereditary palace of the only sovereign whom he had ever treated as an equal, and over whom his successful arms had now attained such an apparently immense superiority. Yet he did not suffer himself to be dazzled by the advantage he had obtained, but availed himself of the light of the blazing Bazaar, to write to the Emperor proposals of peace with his own hand. They were despatched by a Russian officer of rank, who had been disabled by indisposition from following the army. But no answer was ever returned.

Next day the flames had disappeared, and the French officers luxuriously employed themselves in selecting out of the deserted palaces of Moscow, that which best pleased the fancy of each for his residence. At night the flames again arose in the north and west quarters of the city. As the greater part of the houses were built of wood, the

conflagration spread with the most dreadful rapidity. This was at first imputed to the blazing brands and sparkles which were carried by the wind ; but at length it was observed, that, as often as the wind changed,—and it changed three times in that terrible night,—new flames broke always forth in that direction, where the existing gale was calculated to direct them on the Kremlin. These horrors were increased by the chance of explosion. There was, though as yet unknown to the French, a magazine of powder in the Kremlin ; besides that, a park of artillery, with its ammunition, was drawn up under the Emperor's window. Morning came, and with it a dreadful scene. During the whole night, the metropolis had glared with an untimely and unnatural light. It was now covered with a thick and suffocating atmosphere, of almost palpable smoke. The flames defied the efforts of the French soldiery, and it is said that the fountains of the city had been rendered inaccessible, the water-pipes cut, and the fire-engines destroyed or carried off.

Then came the reports of fire-balls having been found burning in deserted houses ; of men and women, that, like demons, had been seen openly spreading the flames, and who were said to be furnished with combustibles for rendering their dreadful work more secure. Several wretches against whom such acts had been charged, were seized upon, and, probably without much inquiry, were shot on the spot. While it was almost impossible to keep the roof of the Kremlin clear of the burning brands which showered down the wind, Napoleon watched from the windows the course of the fire which devoured his fair conquest, and the exclamation burst from him, "These are indeed Scythians!"

The equinoctial gales rose higher and higher upon the third night, and extended the flames, with which there was no longer any human power of contending. At the dead hour of midnight, the Kremlin itself was found to be on fire. A soldier of the Russian police, charged with being

the incendiary, was turned over to the summary vengeance of the Imperial Guard. Bonaparte was then, at length, persuaded, by the entreaties of all around him, to relinquish his quarters in the Kremlin, to which, as the visible mark of his conquest, he had seemed to cling with the tenacity of a lion holding a fragment of his prey. He encountered both difficulty and danger in retiring from the palace, and before he could gain the city gate, he had to traverse with his suite streets arched with fire, and in which the very air they breathed was suffocating. At length he gained the open country, and took up his abode in a palace of the Czar's called Petrowsky, about a French league from the city. As he looked back on the fire, which, under the influence of the autumnal wind, swelled and surged round the Kremlin, like an infernal ocean around a sable Pandemonium, he could not suppress the ominous expression, "This bodes us great misfortune."

The fire continued to triumph unopposed, and consumed in a few days what it had cost centuries to raise. "Palaces and temples," says a Russian author, "monuments of art, and miracles of luxury, the remains of ages which had passed away, and those which had been the creation of yesterday; the tombs of ancestors, and the nursery-cradles of the present generation, were indiscriminately destroyed. Nothing was left of Moscow save the remembrance of the city, and the deep resolution to avenge its fall."

The fire raged till the 19th with unabated violence, and then began to slacken for want of fuel. It is said, four-fifths of this great city were laid in ruins. SCOTT.

WELLINGTON.

—THIS is England's greatest son,
He that gained a hundred fights,
Nor ever lost an English gun ;
This is he that far away
Against the myriads of Assaye
Clashed with his fiery few and won ;
And underneath another sun,
Warring on a later day,
Round affrighted Lisbon drew
The treble work, the vast designs
Of his laboured rampart-lines,
Where he greatly stood at bay,
Whence he issued forth anew,
And ever great and greater grew,
Beating from the wasted vines
Back to France her banded swarms,
Back to France with countless blows,
Till o'er the hills her eagles flew
Past the Pyrenean pines,
Followed up in valley and glen
With blare of bugle, clamour of men,
Roll of cannon and clash of arms,
And England pouring on her foes.
Such a war had such a close.
Again their ravening eagle rose
In anger, wheeled on Europe-shadowing wings,
And barking for the thrones of kings ;
Till one that sought but Duty's iron crown
On that loud sabbath shook the spoiler down ;
A day of onsets of despair !
Dashed on every rocky square
Their surging charges foamed themselves away ;
Last, the Prussian trumpet blew ;

Through the long tormented air
Heaven flashed a sudden jubilant ray,
And down we swept and charged and overthrew.
So great a soldier taught us there
What long-enduring hearts could do,
In that world's earthquake, Waterloo!

TENNYSON.

GRASS.

GATHER a single blade of grass, and examine for a minute, quietly, its narrow sword-shaped strip of fluted green. Nothing, as it seems there, of notable goodness or beauty. A very little strength, and a very little tallness, and a few delicate long lines meeting in a point—not a perfect point neither, but blunt and unfinished, by no means apparently a much-cared-for example of Nature's workmanship; made, as it seems, only to be trodden on to-day, and to-morrow to be cast into the oven; and a little pale hollow stalk, feeble and flaccid, leading down to the dull brown fibres of roots. And yet, think of it well, and judge whether of all the gorgeous flowers that beam in summer air, and of all strong and goodly trees, pleasant to the eyes or good for food—stately palm and pine, strong ash and oak, scented citron, burdened vine—there be any by man so deeply loved, by God so highly graced, as that narrow point of feeble green. It seems to me not to have been without a peculiar significance that our Lord, when about to work the miracle which, of all that He showed, appears to have been felt by the multitude as the most impressive—the miracle of the loaves—commanded the people to sit down by companies “upon the green grass.” He was about to feed them with the principal produce of earth and the sea, the simplest

representations of the food of mankind. He gave them the *seed* of the herb ; He bade them sit down upon the herb itself, which was as great a gift, in its fitness for their joy and rest, as its perfect fruit for their sustenance ; thus, in this single order and act, when rightly understood, indicating for evermore how the Creator had entrusted the comfort, consolation, and sustenance of man, to the simplest and most despised of all the leafy families of the earth. And well does it fulfil its mission. Consider what we owe merely to the meadow grass, to the covering of the dark ground by that glorious enamel, by the companies of those soft, and countless, and peaceful spears. The fields ! Follow but forth for a little time the thoughts of all that we ought to recognize in those words. All spring and summer is in them—the walks by silent, scented paths—the rests in noonday heat—the joy of herds and flocks—the power of all shepherd life and meditation—the life of sunlight upon the world, falling in emerald streaks, and failing in soft blue shadows, where else it would have struck upon the dark mould, or scorching dust—pastures beside the pacing brooks—soft banks and knolls of lowly hills—thymy slopes of down overlooked by the blue line of lifted sea—crisp lawns all dim with early dew, or smooth in evening warmth of barred sunshine, dinted by happy feet, and softening in their fall the sound of loving voices : all these are summed in those simple words ; and these are not all. We may not measure to the full the depth of this heavenly gift, in our own land ; though still, as we think of it longer, the infinite of that meadow sweetness, would open on us more and more, yet we have it but in part. Go out, in the spring time, among the meadows that slope from the shores of the Swiss lakes to the roots of their lower mountains. There, mingled with the taller gentians and the white narcissus, the grass grows deep and free ; and as you follow the winding mountain paths, beneath arching boughs all veiled and dim with blossom,—paths that

for ever droop and rise over the green banks and mounds sweeping down in scented undulation, steep to the blue water, studded here and there with new-mown heaps, filling all the air with fainter sweetness,—look up towards the higher hills, where the waves of everlasting green roll silently into their long inlets among the shadows of the pines ; and we may, perhaps, at last know the meaning of those quiet words of the 147th Psalm, “He maketh grass to grow upon the mountains.”

There are also several lessons symbolically connected with this subject, which we must not allow to escape us. Observe, the peculiar characters of the grass, which adapt it especially for the service of man, are its apparent *humility*, and *cheerfulness*. Its humility, in that it seems created only for lowest service,—appointed to be trodden on, and fed upon. Its cheerfulness, in that it seems to exult under all kinds of violence and suffering. You roll it, and it is stronger the next day ; you mow it, and it multiplies its shoots, as if it were grateful ; you tread upon it, and it only sends up richer perfume. Spring comes, and it rejoices with all the earth,—glowing with variegated flame of flowers,—waving in soft depth of fruitful strength. Winter comes, and though it will not mock its fellow plants by growing then, it will not pine and mourn, and turn colourless or leafless as they. It is always green ; and is only the brighter and gayer for the hoar-frost.

RUSKIN.

VOLCANIC ISLANDS.

SOME curious traditions are found in the writings of the ancients respecting an island called Atlantis, of very large size, believed to have once existed in the Atlantic. It is stated to have been nearly two hundred miles in length,

situated opposite the Straits of Gibraltar. Several other islands are described as situated in the vicinity of Atlantis, beyond which lay a continent superior in size to all Europe and Africa. At length, the whole island is reported to have been swallowed up by the sea; after which, for a long period, that part of the Ocean was of difficult and dangerous navigation, on account of the numerous rocks and shelves which lay beneath the surface.

There are many circumstances which render it improbable that this story, marvellous as it is, is entirely a fiction. It has been supposed that the great island was Cuba, the surrounding ones the other West Indies, and the great continent America; and that the cessation of intercourse with these regions, through the decay of naval enterprise, gave rise to the tradition that the island itself had disappeared. But this would not explain the matter-of-fact statement of the rocky shallows after the catastrophe; nor would the distance of Cuba from Europe permit martial invasions of this continent to be readily made from it. Some have concluded—and this does not seem to my own mind inconsistent with probability—that the statements of the ancients may be literally true; that by the action of an earthquake, of which we have had instances in modern times, the island may have been submerged, and that the Azores are the summits of the highest mountains. It seems somewhat to confirm this opinion, that these islands are evidently volcanic in their origin, and are very subject to earthquakes,—nay, the very phenomenon of islands swallowed up by the sea has repeatedly occurred here within historical record. The last of these occurrences was so remarkable on other accounts as to be well worthy of a detailed description, which is given by an eye-witness, Captain Tillard, an officer of the British navy: “Approaching the island of St. Michael’s on the 12th June, 1811, we occasionally observed, rising in the horizon, two or three columns of smoke, such as would have been occasioned by

an action between two ships, to which cause we universally attributed its origin. This opinion was, however, in a very short time changed, from the smoke increasing, and ascending in much larger bodies than could possibly have been produced by such an event ; and having heard an account, prior to our sailing from Lisbon, that in the preceding January or February a volcano had burst out within the sea near St. Michael's, we immediately concluded that the smoke we saw proceeded from that cause, and on our anchoring the next morning in the road of Ponta del Gada, we found this conjecture correct as to the cause, but not as to the time ; the eruption of January having totally subsided, and the present one having only burst forth two days prior to our approach, and about three miles distant from the one before alluded to."

The Captain having proceeded to a cliff on the island of St. Michael's, about three or four hundred feet high, from which the eruption was scarcely a mile distant, proceeds to describe its appearance ; "Imagine an immense body of smoke rising from the sea, the surface of which was marked by the silvery rippling of the waves. In a quiescent state, it had the appearance of a circular cloud revolving on the water, like a horizontal wheel ; when, suddenly, a column of the blackest cinders, ashes, and stones would shoot up in the form of a spire ; this was rapidly succeeded by a second, third, and fourth, shower, each acquiring greater velocity, and overtopping the other, till they had attained an altitude as much above the level of our eye as the sea was below it.

"As the impetus with which the several columns were severally propelled diminished, and their ascending motion had nearly ceased, they broke into various branches resembling a group of pines ; these again forming themselves into festoons of white feathery smoke, in the most fanciful manner imaginable, intermixed with the finest particles of falling ashes, which at one time assumed the appearance of

innumerable plumes of black and white ostrich feathers surmounting each other; at another, that of the light wavy branches of a weeping willow.

“During these bursts, the most vivid flashes of lighting continually issued from the densest part of the volcano; and the cloud of smoke, now ascending to an altitude much above the highest point to which the ashes were projected, rolled off in large masses of fleecy clouds, gradually expanding themselves before the wind in a direction nearly horizontal, and drawing up to them a quantity of waterspouts, which formed a most beautiful and striking addition to the general appearance of the scene.”

In the course of a few hours, a crater had been thrown up by these eruptions, to the height of twenty feet above the sea, and apparently three or four hundred feet in diameter. Repeated shocks of an earthquake accompanied the explosion. The narrator was obliged to leave the neighbourhood on the succeeding day, at which time the volcanic eruption was seen from a distance to be still raging with undiminished fury. About three weeks afterwards he returned to the spot, and found all quiet, but the newly-formed island had increased to a mile in circumference, and the highest part appeared to have an elevation of about two hundred and forty feet. On landing, he found the place still smoking, and the larger crater nearly full of water in a boiling state, which was being discharged into the ocean by a stream about six yards across: this stream, close to the edge of the sea, was so hot, as barely to admit the momentary immersion of the finger. On the 11th of October, in the same year, this island sank beneath the ocean from which it had emerged, leaving a dangerous shoal in the neighbourhood, thus realizing the traditionary fate of the island of Atlantis.

The Ocean.

THE NORSEMEN.

We all know that our British race is a compound of many races. Far back, in the dim dawn of history, we look through the morning shadows, and find the Celts in ancient Britain. Then came our Roman invaders. Next the Saxon, so-called, element is infused, and gradually the Anglo-Saxon race is formed. Anglo-Saxon is the name we often pride ourselves upon, especially when we look abroad and see how it spreads onwards round the world for ever. But perhaps we have not yet given full credit to the influence of the Norsemen on the Anglo-Saxon race as regards the British portion of it. We must look back a little further than the advent of Norman William, if we would see how the more vital stamina of our race was put into it, and how this country became the furnace and the forge in which God shaped anew that hardy metal of the North. "Skin a Russian," says an old proverb, "and you will find the Tartar underneath." Skin an Englishman, say we, or only touch his skin if you dare, and you will find the old Norse spirit waking up like a war-dog.

Few of us really know how much we owe to the Norseman. The Saxons' was the home-loving, patriot soul, but it was the Norsemen who gave us the spirit of our sea-kings. Those ruddy fair-haired fellows gave us that *paddle-power* which has floated out from this little island the vast force that has covered the great deep with ships, peopled the ends of the earth with human life, and made the voice of Christ be heard through this English tongue all over the world.

1400 years ago, and 600 before the coming of Norman William, there landed at Ebbsfleet, in the Isle of Thanet, three boat-loads of Norse pirates. These were the first of the brave, and bold, and bloody sea-kings of whom we have record. Wild, fierce, and adventurous fellows were these,

who loved danger, and went forth trampling down the might of tempests with their tossing prows, making the white sea-horses rear and foam along in front of them. The children of a mighty mother, they had been rocked and reared on a bosom that heaved with storms, and the strength and the calm and the cruelty of the sea had passed into their race. Few might return from these long viking voyages and wild desperate work. Long, long, might the poor wives and widows wait for them till the tearful tidings came creeping home slowly and sadly. But out they rode in their long galleys from those lonely steel-blue northern fiords, and on they sailed to fight and overcome, absorbing the strength of the conquered into their own as they went, ready to erect the throne of their power on every isle of the ocean or continent of the earth.

At that time the empires of the old world had passed away, and the old races were fast decaying, for they had reached their dark ages. The world just then especially needed a race of men who should become masters of the sea, as the mastery of the sea would lead to world-wide empire, and make room for the workers of a world. A race of builders as well as battlers, who could strike fresh root as well as pluck the fruit they found, plant as well as plunder, colonize as well as conquer, and succeed where the Romans had failed. And in the far north was found the fresh fuel to kindle and quicken the Anglo-Saxon into the present English race. They gave us the very spirit of that Protestantism which has become the touchstone and corner-stone of the nations. They wrestled here with Papal Rome for spiritual possession of the island people, and they remained as conquerors. They gave us the impulse of our maritime enterprise, and sowed many seeds of that public and private freedom which crowns each man king in his own castle or cottage. They possessed the germ of our representative governments, in their open parliaments, and they had the spirit which in their parliaments would go

straight up to the lying ghost of any pretended right-divine-to-do-wrong, and show it to be only a lie. And if it persisted in not giving up the ghost, they beheaded it.

The bold, and brave, and bloody sea-kings who broke forth in such a wide-wasting, world-warring whirlwind of conquering strength, have brought forth our Drakes and Grenvilles, our Blakes and Nelsons, our Franklins and Peels. The metal may be tempered to finer issues, but it has in it the old Norse ring. Right through our history runs the Norse spirit, for centuries, of daring and maritime enterprise, with its irresistible longing for new fields of action; and it has surged on and on in the English race until it has won the supremacy of the sea, until its conquering flag floats over so many strong places of the earth, and the most distant isles of the sea, until its empire contains some three hundred millions of souls, and its myriads of British descent pouring over the vast plains of Australia, over the mountain ranges of America, and the fair Indian streams, are shouting back to England their all-hail to the Mother of Nations, whose children rise up and call her blessed.

Good Words.

THE BATTLE OF THE BALTIC.

OF Nelson and the North,
Sing the glorious day's renown,
When to battle fierce came forth
All the might of Denmark's crown,
And her arms along the deep proudly shone ;
By each gun the lighted brand,
In a bold determined hand,
And the Prince of all the land
Led them on.

Like leviathans afloat
Lay their bulwarks on the brine ;
While the sign of battle flew
On the lofty British line :
It was ten of April morn by the chime :
As they drifted on their path,
There was silence deep as death ;
And the boldest held his breath,
 . For a time.

But the might of England flushed
To anticipate the scene ;
And her van the fleetest rushed
O'er the deadly space between.
"Hearts of oak !" our captains cried ; when each gun,
From its adamant lips,
Spread a death-shade round the ships,
Like the hurricane-eclipse
 Of the sun.

Again ! again ! again !
And the havoc did not slack,
Till a feeble cheer, the Dane,
To our cheering, sent us back :—
Their shots along the deep slowly boom :—
Then ceased—and all is wail,
As they strike the shatter'd sail ;
Or, in conflagration pale,
 Light the gloom.

Now joy, old England, raise !
For the tidings of thy might,
By the festal cities' blaze,
While the wine-cup shines in light ;
And yet amidst that joy and uproar,
Let us think of them that sleep,
Full many a fathom deep,
By thy wild and stormy steep,
 Elsinore !

CAMPBELL.

PETRA.

PETRA, the excavated city, the long-lost capital of Edom, in the Scriptures and profane writings, in every language in which its name occurs, signifies a rock ; and through the shadows of its early history, we learn that its inhabitants lived in natural clefts or excavations of the solid rock. Desolate as it now is, we have reason to believe that it goes back to the time of Esau, "the father of Edom ;" that princes and dukes, eight successive kings, and again a long line of dukes, dwelt there before any king "reigned over Israel ;" and we recognize it from the earliest ages as the central point to which came the caravans from the interior of Arabia, Persia, and India, laden with all the precious commodities of the East, and through which these commodities were distributed through Egypt, Palestine, and Syria, and all the countries bordering on the Mediterranean, even Tyre and Sidon deriving their purple and dyes from Petra.

This ancient and extraordinary city is situated within a natural amphitheatre of two or three miles in circumference, encompassed on all sides by rugged mountains 500 or 600 feet in height. The whole of this area is now a waste of ruins ; dwelling-houses, palaces, temples, and triumphal arches, all prostrate together in undistinguishable confusion. The sides of the mountains are cut smooth, in a perpendicular direction, and filled with long and continued ranges of dwelling-houses, temples, and tombs, excavated with vast labour out of the solid rock ; and while their summits present Nature in her wildest and most savage form, their bases are adorned with the beauty of architecture and art, with columns and porticos, and pediments, and ranges of corridors, enduring as the mountains

out of which they are hewn, and fresh as if the work of a generation scarcely yet gone by.

On the left, in the bosom of the mountain, hewn out of the solid rock, is a large theatre, circular in form, the pillars in front fallen, and containing thirty-three rows of seats, capable of containing more than 3000 persons. Above the corridor was a range of doors opening to chambers in the rocks, the seats of the princes and wealthiest inhabitants of Petra, and not unlike a row of private boxes in a modern theatre.

The whole theatre is, at this day, in such a state of preservation, that, if the tenants of the tombs around could once more rise into life, they might take their old places on its seats, and listen to the declamation of their favourite player. To me, the stillness of a ruined city is nowhere so impressive as when sitting on the steps of its theatre ; once thronged with the gay and pleasure-seeking, but now given up to solitude and desolation. Day after day these seats had been filled, and the now silent rocks had echoed to the applauding shouts of thousands ; and little could an ancient Edomite imagine that a solitary stranger, from a then unknown world, would one day be wandering among the ruins of his proud and wonderful city, meditating upon the fate of a race that has, for ages, passed away. Where are ye, inhabitants of this desolate city ? ye who once sat on the seats of this theatre, the young, the high-minded, the beautiful, and brave ; who lived as if there was no grave ? Where are ye now ? Even the very tombs, whose open doors are stretching away in long ranges, before the eyes of the wondering traveller, cannot reveal the mystery of your doom : your dry bones are gone : the robber has invaded your graves, and your very ashes have been swept away to make room for the wandering Arab of the desert.

But we need not stop at the days when a gay population were crowding to this theatre. In the earliest periods of recorded time, long before this theatre was built, and long

before the tragic muse was known, a great city stood here ; when Esau, having sold his birthright for a mess of pottage, came to his portion among the mountains of Seir ; and Edom, growing in power and strength, became presumptuous and haughty, until in her pride when Israel prayed a passage through her country, Edom said to Israel, "Thou shalt not pass by me, lest I come against thee with the sword."

I would that the sceptic could stand as I did, among the ruins of this city among the rocks, and there open the sacred book, and read the words of the inspired penman, written when this desolate place was one of the greatest cities in the world. I see his scoff arrested, his cheek pale, his lip quivering, and his heart quaking with fear, as the ruined city cries out to him in a voice, loud and powerful as that of one risen from the dead ; though he would not believe Moses and the prophets, he believes the handwriting of God himself in the desolation and eternal ruin around him.

STEPHENS.

THE WORLD PASSETH AWAY.

EVEN those objects which men are most apt to count upon as imperishable, because, without any sensible decay, they have stood the lapse of many ages, will not weather the lapse of eternity. This earth will be burnt up. The light of yonder sun will be extinguished. These stars will cease from their twinkling. The heavens will pass away as a scroll : and as to those solid and enormous masses which, like the firm world we tread upon, roll in mighty circuit through the immensity around us, it seems the solemn language of revelation, of one and of all of them, that from the face of Him who sitteth on the throne, the earth and the

heavens will fly away, and there will be found no place for them.

Even apart from the Bible, the eye of observation can witness in some of the hardest and firmest materials of the present system, the evidence of its approaching dissolution. What more striking, for example, than the natural changes which take place on the surface of the world, and which prove that the strongest of Nature's elements must at last yield to the operation of time and of decay,—that yonder towering mountain, though propped by the rocky battlements which surround it, must at last sink under the power of corruption,—that every year brings it nearer to its end,—that, at this moment, it is wasting silently away, and letting itself down from the lofty eminence it now occupies,—that the torrent which falls from its side never ceases to consume its substance, and to carry it off in the form of sediment to the ocean,—that the frost which assails it in winter loosens the solid rock, detaches it in pieces from the main precipice, and makes it fall in fragments to its base,—that the power of the weather scales off the most flinty materials, and that the wind of heaven scatters them in dust over the surrounding country,—that even though not anticipated by the sudden and awful convulsions of the day of God's wrath, nature contains within itself the rudiments of decay,—that every hill must be levelled with the plains, and every plain be swept away by the constant operation of the rivers which run through it,—and that, unless renewed by the hand of the Almighty, the earth on which we are now treading must disappear in the mighty roll of ages and of centuries? We cannot take our flight to other worlds, or have a near view of the changes to which they are liable. But surely if this world, which, with its mighty apparatus of continents and islands, looks so healthful and so firm after the wear of many centuries, is posting visibly to its end, we may be prepared to believe that the principles of destruction are also at work in other

provinces of the visible creation—and that though of old God laid the foundation of the earth, and the heavens are the work of His hands, yet they shall perish; yea, all of them shall wax old like a garment, and as a vesture shall He change them, and they shall be changed.

CHALMERS.

THE BLESSINGS OF SALVATION.

It is impossible to set too high a value on the blessings of Christ's salvation. They as far exceed ordinary blessings, as heaven is higher than earth, and as eternity is longer than time. It may with truth be said of them, that they are infinitely precious, and above all comparison with the richest and most costly objects which the world holds out to us.

Even in a present life, our Saviour confers upon us benefits which are worthy of our highest esteem and most eager pursuit. He gives us knowledge of the most important kind—knowledge of the true God, and of the plan of redemption, and of the path of duty; and this knowledge, so excellent and so essential, the wisest of mere men never could impart. He gives us deliverance from the power of sin, victory over the corrupt passions and principles of our nature, and willingness and ability to maintain that good conscience which is a source of perpetual rejoicing. He gives us the assurance of being reconciled to our heavenly Father, whom we had offended by transgression, whose anger is a consuming fire, and whose friendship is not more necessary than it is sufficient to make his creatures happy. He gives us consolation in the midst of our various distresses, which enables us not only to bear them with patience, but even to "rejoice in tribulation." He gives us those lessons of moral virtue, and those inducements to

practise it, which make individuals pure and benevolent, which secure peace and comfort to families, and which promote the good order, prosperity, and happiness of society at large.

But it is by looking to the interests of a future life that we come to estimate aright the blessings which Christ bestows upon us. As sinners we are liable to eternal destruction ; but Christ rescues us from that awful fate, and has so completely satisfied the law and justice of God, that we who believe in him shall never come into condemnation ; we are pardoned freely, fully, and for ever. And not only does he save us from hell, to the punishment of which we were subject ; he has also procured for us a new title to heaven, whose happiness we had forfeited by disobedience ; so that whosoever believeth in him shall never perish, but have everlasting life, and shall be prepared by the sanctifying influences of the Holy Spirit for its exercises and its enjoyments.

How much should we prize the blessings of the Gospel ! How grateful should we be for that love of Christ to which they are all to be traced ! How anxious to possess and enjoy them ! And how diligent in using the means by which, according to divine appointment, they may become ours !

It is melancholy to see that multitudes, both of old and young, are totally regardless of the blessings which Christ has purchased for sinners. They live as if they had no account to give ; as if there were no Saviour ; or as if the salvation he has wrought out were not worthy of their acceptance and their thanksgiving. Alas ! they will think otherwise when they come to die. O that they would seriously consider their ways while the season for preparation continues, and that they would repent of their sins and embrace the Redeemer, in this the day of their merciful visitation !

Let such of us as are aware of the vast importance of

this subject, and have got just views and feelings as to the benefits of Christ's salvation, set ourselves with all earnestness and activity to the work of practical religion. Let us pray often and fervently for pardon, and sanctification, and eternal life. And let us act in every respect as it becomes those to do, who are sensible of their obligations to redeeming love, and who hope to be admitted at last into that "new heaven and new earth in which dwelleth righteousness."

THOMSON.

ROCK OF AGES.

Rock of Ages, cleft for me,
 Let me hide myself in Thee ;
 Let the water and the blood,
 From thy riven side which flow'd,
 Be of sin the double cure,
 Save from wrath and make me pure.

Nothing in my hand I bring,
 Simply to Thy cross I cling ;
 Naked, come to Thee for dress,
 Helpless, look to Thee for grace ;
 Black, I to the fountain fly,
 Wash me, Saviour, or I die. TOPLADY.

JERUSALEM.

FALLEN is thy throne, O Israel !
 Silence is o'er thy plains !
 Thy dwellings all lie desolate,
 Thy children weep in chains.

Where are the dews that fed thee
On Etham's barren shore !
The fire from heaven that led thee
Now lights that path no more !

Lord, thou didst love Jerusalem ;
Once she was all Thine own :
Her love Thy fairest heritage,
Her power Thy glory's throne,
Till evil came and blighted
Thy long-loved olive-tree,
And Salem's shrines were lighted
For other gods than Thee.

Then sunk the star of Solyma,
Then passed her glory's day,
Like heath that in the wilderness
The light wind whirls away.
Silent and waste her bowers,
Where once the mighty trod ;
And sunk those guilty towers,
Where Baal reigned as God.

" Go," said the Lord, " ye conquerors,
Steep in her blood your swords,
And raze to earth her battlements,
For they are not the Lord's.
Tell Zion's mournful daughter
O'er kindred bones she'll tread,
And Hinnom's vale of slaughter
Shall hide but half her dead."

But soon shall other pictured scenes
In brighter vision rise,
When Zion's sun shall sevenfold shine
On all her mourners' eyes ;

And on her mountains beauteous stand
 The messengers of peace;—
 “Salvation by the Lord’s right hand!”
 They shout and never cease. MOORE.

HEAVEN.

THERE is an hour of peaceful rest,
 To mourning wanderers given;
 There is a tear for souls distressed,
 A balm for every wounded breast—
 ’Tis found above—in Heaven!

There is a soft, a downy bed,
 ’Tis fair as breath of even;
 A couch for weary mortals spread,
 Where they may rest the aching head,
 And find repose in Heaven!

There is a home for weary souls,
 By sin and sorrow driven!
 When tossed on life’s tempestuous shoals,
 Where storms arise, and ocean rolls,
 And all is drear but Heaven!

There Faith lifts up her cheerful eye,
 The heart no longer riven,
 And views the tempest passing by,
 The evening shadows quickly fly,
 And all serene, in Heaven!

There fragrant flowers immortal bloom,
 And joys supreme are given;
 There rays divine disperse the gloom:
 Beyond the confines of the tomb
 Appears the dawn of Heaven! TAPPAN.

THE BETTER LAND.

"I HEAR thee speak of the better land;
Thou call'st its children a happy band;
Mother! oh where is that radiant shore?—
Shall we not seek it, and weep no more?
Is it where the flower of the orange blows,
And the fire-flies dance through the myrtle boughs?"
"Not there, not there, my child!"

"Is it where the feathery palm-trees rise,
And the date grows ripe under sunny skies?
Or 'midst the green islands of glittering seas,
Where fragrant forests perfume the breeze,
And strange bright birds, on their starry wings,
Bear the rich hues of all glorious things?"
"Not there, not there, my child!"

"Is it far away, in some region old,
Where the rivers wander o'er sands of gold?—
Where the burning rays of the ruby shine,
And the diamond lights up the secret mine,
And the pearl gleams forth from the coral strand?—
Is it there, sweet mother, that better land?"
"Not there, not there, my child!"

"Eye hath not seen it, my gentle boy!
Ear hath not heard its deep songs of joy;
Dreams cannot picture a world so fair,—
Sorrow and death may not enter there;
Time doth not breathe on its fadeless bloom,
For beyond the clouds and beyond the tomb,
It is there, it is there, my child!"

HEMANS.

WRITING MATERIALS.

IN the most ancient times it would seem that writing was used for great occasions only ; and that a rock, a tablet of stone, or a plate of metal, was the receptacle. The reader will doubtless remember the stone tables of Moses, and the wish of Job, that his words were graven with an iron pen and lead in the rock. The works of Homer and Hesiod are said to have been first written on plates of lead, and many ancient documents on copper, of considerable extent, are still met with in India. The use of the tablet-stone is still familiar, and the sculptured rocks of the north of Europe show the practice of consigning records to this imperishable material to have been frequent amongst our ancestors of the ninth and tenth centuries.

Some persons are of opinion that the first writing was upon thin pieces of wood, which from their convenience is very probable. Such boards were used at an early period by the Greeks and Romans, and were frequently covered with wax, which was of course more readily written upon than the bare wood. But such writing would be more easily obliterated, and was therefore used chiefly for temporary purposes. When wax was used any errors were easily erased by rubbing with the blunt end of the piece of metal which served for a pen. To make the characters more visible, it appears that some black substance was smeared over the surface of the white wax, which remained in the scratched marks. The convenience of this process caused the practice to be continued long after the introduction of other materials.

Leaves of trees were used in ancient times by the Egyptians, and probably by the Greeks. The Hindoos continued the use of this material until within these very few centuries, and even at the present time, books of leaves are not uncommon in the south of India and in the island of Ceylon. The leaves of some Asiatic trees are, from their

size and smoothness, so admirably adapted for books, that the cheapness and beauty of European paper has not been able entirely to supersede their use. If we may judge from the name of leaf being still applied to paper books, we should imagine those leaves to have been formerly the principal material in use.

The interior bark of trees is of very ancient use, and its Latin name seems to intimate that it was as ancient among the Romans as the art of writing itself; no other name being used for a book than that of the writing material. In one respect the bark was superior to the leaf; it could be rolled into a volume, which was the favourite form among the ancients, while the leaf would crack if subjected to such a process.

Linen cloth was occasionally used, but was never very common. The mummy cases found in Egypt have occasionally linen manuscripts folded in them, and the Chinese before the invention of paper used silk and cotton cloths. The Romans also wrote on linen, as is stated by Pliny and others. The use of this material necessarily introduced an alteration in the process of writing. All the other substances we have mentioned were rather engraved than written upon, and an iron point was used for the purpose. To write on linen it was necessary to paint upon it with some coloured liquid, which might get dry and leave a permanent mark. This gave rise to the invention of pen and ink; the first ink used was probably composed of soot or lamp-black, mixed with some sort of size or gum-water. An ink of this description may be somewhat less flowing than our modern ink, and consequently less adapted for rapid writing; but it has the great advantage of being a solid body of unalterable colour, whereas our ink is liable to have its colour destroyed by several chemical processes. The advantage of a solid body appears in the manuscripts dug up at Herculaneum, which, although burned to a perfect charcoal, and buried for nearly eighteen centuries, are still

legible ; the ink remaining as it were embossed on the surface, and appearing blacker than the burned paper, which, from having been polished, reflects the light in a small degree.

The instrument answering to our pen was the reed, a sort of bulrush, which grew in many parts of the East. Such reeds, cut in the manner of a quill, are still used by all those nations who write the Arabic character ; and are found, even by Europeans who have occasion to write much Persian or Arabic, to be more suitable to that character (a way of writing from right to left) than our pens. Those nations who have adopted the Chinese character use a camel's-hair pencil, which is held perpendicularly in the hand ; and although it would seem to us to be but little adapted for quick writing, the Chinese write their complicated characters with these implements with a rapidity seldom equalled by European writers.

The skins of animals were another and very ancient material for writing upon. The obvious convenience of this substance must have caused its adoption as soon as any means were devised for preserving it from spoiling ; and the large size of skins, added to their pliability, must have caused them to be preferred to leaves of trees. It is most probable that the rolls of books mentioned by Ezekiel, Isaiah, and other prophets, were rolls of skins ; and the very ancient copies of the Bible preserved by the Jews of Cochin, in India, are said to be of leather. These skins would naturally be made as white as it was practicable, in order to receive and show the ink, and thus by degrees would parchment be invented.

The Egyptian paper, from the papyrus-plant, was for a long time as much in use as parchment ; but the paper made from it was not what we understand by the term,—a mass of torn fragments of vegetable matter, evenly spread out, and joined together by size and their own adhesiveness ; it was a species of inner bark, or thin pellicle, separated

from the plant by a sharp tool, and pasted together in layers until it attained the desired size and thickness, when it was pressed and polished. This sort of paper continued to be used contemporaneously with parchment until about the twelfth century, when the introduction of modern paper caused it to be disused, and the art of making it was lost. It was very extensively employed by the Romans, and by the Greeks in Rome. All the rolls burned at Herculaneum, and preserved by the fire which appeared to destroy them, were written on papyrus. No other writing is known to exist of nearly that age, although we have some undoubted specimens of ancient Egyptian papyrus. We may observe, however, that many old manuscripts said to be on papyrus are in reality written on cotton-paper.

In the ninth or tenth century, the use of paper, properly so called, was introduced into Europe. This article had already been manufactured in China, from a remote period (A.D. 95), of the internal substance of the bamboo, sometimes of the mulberry tree, and occasionally of cotton. About the middle of the seventeenth century the manufacture was brought to Samarcand, or perhaps this city was only the depôt of China paper, as it was of some other objects of Chinese skill brought into the west by the Arabs. It seems to be ascertained that a manufactory of cotton-paper was established at Mecca in the year 716, from whence it was brought by the Greeks to Constantinople.

Penny Magazine.

JELLY FISHES.

AMONG the animated wonders of the sea, though not all of microscopic size, few tribes are more singular in structure, and in their history, or more beautiful in their varied forms, than the Jelly-fishes, to whose phosphorescence the lumin-

osity of the sea is chiefly attributable. Many of these creatures are of strictly microscopic size, and so transparent, that they can scarcely be seen in the water in which they swim, except when revealed by the motion of their cilia or the flashes of light which they send forth in the dark ; others are of comparatively large size, and some are even three or four feet in length. The sea in all climates produces these simple creatures, and sometimes swarms with them in countless multitudes. But it is in tropical latitudes, and through the scarcely fathomable waters of the deep sea, that animals of this class display the greatest variety of form, and multiply in the greatest profusion. Here, too, the luminous species are of the largest size, and most brilliantly phosphorescent. Coleridge's description in the "Ancient Mariner" may convey some notion of their singular beauty :—

"Beyond the shadow of the ship
I watched the water-snakes:
They moved in tracks of shining white,
And when they reared, the elfish light
Fell off in hoary flakes.

"Within the shadow of the ship
I watched their rich attire:
Blue, glossy-green, and velvet black
They coiled and swam; and every track
Was a flash of golden fire."

But it is difficult, in the most glowing description, to convey an idea of the extraordinary effects produced by the presence of such countless luminous points scattered through the waters of the ocean. Sometimes the whole surface, far as the eye can stretch, seems one sheet of phosphorescent sheen ; while looking down into the water close to the ship large globes of fire are seen slowly moving along at various depths. The wake of the vessel, at the same time, displays the most vivid and varied scintillations, and

the spray that breaks on her prow falls off like a shower of many-coloured sparks. One scarcely knows on which part of this wonderful display of fireworks to fix the attention. One after another attracts our gaze, and in its turn appears most beautiful. The phosphorescence is not constant; it is most vivid when the water is disturbed. Thus the passing of the vessel causes an illumination, long continued in the wake she leaves behind: while a sudden breeze sweeping over the surface will send a stream of light far across the sea, striking similar to the dartings of the aurora through the realms of air. Such are some of the glories that the tropical ocean presents to us; similar, but less brilliant illuminations are witnessed on our coasts, especially in warm evenings towards the close of summer, at which season vast multitudes of small *Medusæ* frequently swim along the shore, entering into creeks and bays, and sometimes literally converting the shallower inlets into strata of living jelly. At ordinary times many beautiful kinds may be collected by dragging a small gauze net after the boat, just below the surface of the water. In calm weather these little creatures rise to the upper strata of water, and sink again when the sea is troubled.

In structure, the Jelly-fishes are exceedingly simple, but not the less wonderful on that account. Our wonder is, indeed, the more excited when we find creatures of large size, as many of the *Medusæ* are, and endowed with considerable powers of perception, and some strength and agility, formed of a few delicate tissues filled with a fluid, to all appearance, not very different from sea-water. It is as if we had to investigate the structure of submarine bubbles. Take one of the largest of the race, weighing many pounds while living, and dry it. The whole contents of the body will either leak away or evaporate, and nothing will be left but some small shreds of membranous skin, forming a glistening stain on the surface of whatever object the Jelly-fish was placed upon. The flesh is entirely composed of large

cells of delicate structure, filled with a transparent fluid. But these cells are put together with the most rigid accuracy, and their arrangement is so varied that naturalists have had to distinguish numerous families and genera of Jelly-fishes. The number four prevails through the whole class. All the parts of the body are divisible by four, and mostly ranged in a radiate manner round a centre, so that either the animal is cruciform, or its internal parts are so arranged. But this form, though very general, is not universal :—some resemble long ribbons ; others are oval or irregularly curved.

HARVEY.

THE RAVEN.

ONCE upon a midnight dreary, while I pondered, weak and
weary,
Over many a quaint and curious volume of forgotten
lore—
While I nodded, nearly napping, suddenly there came a
tapping,
As of some one gently rapping, rapping at my chamber
door.
“’Tis some visitor,” I muttered, “tapping at my chamber
door—

Only this and nothing more.”

And the silken sad uncertain rustling of each purple cur-
tain
Thrilled me—filled me with fantastic terrors never felt
before ;
So that now, to still the beating of my heart, I stood re-
peating
“’Tis some visitor entreating entrance at my chamber
door—
Some late visitor entreating entrance at my chamber door ;
This it is and nothing more.”

Presently my soul grew stronger; hesitating then no longer,
"Sir," said I, "or Madam, truly your forgiveness I implore ;
But the fact is I was napping, and so gently you came rapping,
And so faintly you came tapping, tapping at my chamber door,
That I scarce was sure I heard you"—here I opened wide the door ;—

Darkness there and nothing more.

Back into the chamber turning, all my soul within me burning,
Soon again I heard a tapping something louder than before.
"Surely," said I, "surely that is something at my window lattice;
Let me see, then, what thereat is and this mystery explore—
Let my heart be still a moment and this mystery explore;
'Tis the wind and nothing more."

Open here I flung the shutter, when, with many a flirt and flutter,
In there stepped a stately Raven of the saintly days of yore.
Not the least obeisance made he ; not a minute stopped or stayed he ;
But, with mien of lord or lady, perched above my chamber door—
Perched upon a bust of Pallas just above my chamber door—

Perched, and sat, and nothing more.

Then this ebony bird beguiling my sad fancy into smiling,
By the grave and stern decorum of the countenance it wore,

"Though thy crest be shorn and shaven, thou," I said,
"art sure no craven,
Ghastly grim and ancient Raven wandering from the
Nightly shore—
Tell me what thy lordly name is on the Night's Plutonian
shore!"

Quoth the Raven, "Nevermore."

Much I marvelled this ungainly fowl to hear discourse so
plainly,
Though its answer little meaning—little relevancy bore;
For we cannot help agreeing that no living human being
Ever yet was blessed with seeing bird above his chamber
door,
Bird or beast upon the sculptured bust above his chamber
door,

With such name as "Nevermore."

But the Raven still beguiling all my sad soul into smiling,
Straight I wheeled a cushioned seat in front of bird and
bust and door;
Then, upon the velvet sinking, I betook myself to linking
Fancy unto fancy, thinking what this ominous bird of
yore—
What this grim, ungainly, ghastly, gaunt, and ominous
bird of yore

Meant in croaking "Nevermore."

POE.

ALEXANDER AND THE AFRICAN CHIEF.

DURING his march to conquer the world, Alexander the
Macedonian came to a people in Africa, who dwelt in a
remote and secluded corner in peaceful huts, and knew
neither war nor conqueror. They led him to the hut of

their chief, who received him hospitably, and placed before him golden dates, golden figs, and bread of gold. Do you eat gold in this country? said Alexander. I take it for granted (replied the chief) that thou wert able to find eatable food in thine own country; for what reason then art thou come among us?—Your gold has not tempted me hither, said Alexander; but I would willingly become acquainted with your manners and customs. So be it, rejoined the other, sojourn among us as long as it pleaseth thee. At the close of this conversation two citizens entered as into their Court of Justice. The plaintiff said: I bought of this man a piece of land, and as I was making a deep drain through it, I found a treasure. This is not mine, for I only bargained for the land, and not for any treasure that might be concealed beneath it; and yet the former owner of the land will not receive it. The defendant answered: I hope I have a conscience as well as my fellow-citizen. I sold him the land, with all its contingent as well as existing advantages, and consequently the treasure inclusively.

The chief, who was at the same time their supreme judge, recapitulated their words, in order that the parties might see whether or no he understood them aright; then, after some reflection, said: Thou hast a son, friend, I believe?—Yes! And thou (addressing the other) a daughter?—Yes! Well, then! let thy son marry *thy* daughter, and bestow the treasure on the young couple for their marriage-portion. Alexander seemed surprised and perplexed. Think you my sentence unjust? the chief asked him.—O no, replied Alexander, but it astonishes me. And how, then, rejoined the chief, would the case have been decided in your country?—To confess the truth, said Alexander, we should have taken both parties into custody, and have seized the treasure for the king's use. For the king's use! exclaimed the chief, now in his turn astonished. Does the sun shine in that country?—O yes!

Does it rain there?—Assuredly. Wonderful! But are there tame animals in the country that live on the grass and green herbs?—Very many, and of many kinds. Aye, that must be the cause, said the chief; for the sake of those innocent animals, the all-gracious Being continues to let the sun shine and the rain drop down on your country.

COLERIDGE.

A PRAIRIE.

THE first view of a prairie will probably excite more surprise in the mind of a traveller in the United States than the grandest objects of nature. Riding day after day through forests, in which the cleared land is not of sufficient extent to interrupt the general aspect of wood, he breaks at once upon the view of a fine open country—he beholds extensive plains of the most soft and beautiful verdure, covered with flowers of every scent and hue. Occasionally on the prairie, and often in the centre, are clumps of fine trees, especially of the oak and black walnut, so charmingly disposed, that the traveller can hardly believe that they have not been placed by the hand of man. The views of tracts of country of this description are in many places far more extensive than are to be met with in any country whose land has been laid out in this way artificially, with a view to its beauty, and to increase its value to its possessor. The prospect from the high grounds that often surround the prairies, comprehending verdant lawns, large forests, through which vast rivers are rolling their mighty masses of water, and fine hills in the distance, with cottages, cattle, horses, and deer, is altogether as fine as can be conceived anywhere.

STEWART.

FIRE ON THE PRAIRIES.

ERE long, a change came over the scene. About two-thirds of the distance around the verge of the horizon a faint light appeared, resembling the scene when a dense curtain of clouds hangs overhead, and the rays of the morning sun steal under the edge of the thick vapour. But the stars could be seen, and the only appearance of clouds was immediately above the circle of light. In a very few minutes the terrible truth flashed upon the mind of Glenn. The dim light along the horizon was changed to an approaching flame. Columns of smoke could be seen rolling upward, while the fire beneath imparted a lurid glare to them. The wind blew more fiercely, and the fire approached from almost every quarter with the swiftness of a race-horse. The darkened vault above became gradually illuminated with a crimson reflection, and the young man shuddered with the horrid apprehension of being burnt alive! It was madness to proceed in a direction that must inevitably hasten their fate, the fire extending in one unbroken line from left to right, and in front of them, and they now turned in a course which seemed to place the greatest distance between them and the furious element. Ever and anon a frightened deer or elk leaped past, and the hounds no longer noticed them, but remained close to the horses. The flames came on with awful rapidity. The light increased in brilliance, and objects were distinguishable far over the prairie. A red glare could be seen on the sides of the deer as they bounded over the tall dry grass, which was soon to be no longer a refuge for them. The young men heard a low continued roar, that increased every moment in loudness, and, looking in the direction whence they supposed it proceeded, they observed an immense, dark, moving mass, the nature of which they could not divine, but it threatened to an-

nihilate everything that opposed it. While gazing at this additional source of danger, the horses, blinded by the surrounding light, plunged into a deep ditch that the rain had washed in the rich soil. Neither men nor horses, fortunately, were injured; and, after several ineffectual efforts to extricate themselves, they here resolved to await the coming of the fire. Ringwood and Jowler whined, fearfully on the verge of the ditch for an instant, and then sprang in and crouched trembling at the feet of their master. The next instant the dark thundering mass passed overhead, being nothing less than an immense herd of buffaloes driven forward by the flames. The horses bowed their heads as if a thunderbolt were passing. The fire and the heavens were hid from view, and the roar above resembled the rush of mighty waters. When the last animal had sprung over the chasm, Glenn thanked the propitious accident that thus providentially prevented him from being crushed to atoms, and uttered a prayer to Heaven that he might by a like means be rescued from the fiery ordeal that awaited him. It now occurred to him that the accumulation of weeds and grass in the chasm, which saved them from injury when falling in, would prove fatal when the flames arrived. And after groping some distance along the trench, he found the depth diminished, but the fire was not three hundred paces distant. His heart sank within him. But when on the eve of returning to his former position, with a resolution to remove as much of the combustible matter as possible, a gleam of joy spread over his features, as, casting a glance in a contrary direction from that they had recently pursued, he beheld the identical mound he had ascended before dark, and from which his unsteady and erratic riding in the night had fortunately prevented a distant separation. They now led their horses forth, and, mounting without delay, spurred forward for life or death. Could the summit of the mound be attained, they were in safety, for there the soil was not encumbered

with decayed vegetation, and they urged their animals to the top of their speed. It was a noble sight to see the majestic white steed flying toward the mound with the velocity of the wind, while the diminutive pony miraculously followed in the wake like an inseparable shadow. The careering flames were not far behind, and, when the horses gained the summit and Glenn looked back, the fire had gained the base.

Fortunately that portion of the plain over which the scathing element had spent its fury, was the direction the party should pursue in retracing their way homeward.

The light dry grass had been soon consumed, and the earth now wore a blackened appearance, and was as smooth as if vegetation had never covered the surface. As the party rode briskly along (and the pony now kept in advance), the horses' hoofs rattled as loudly on the baked ground as if it were a planked floor. The reflection of the fire in the distance still threw a lurid glare over the extended heath. As the smoke gradually ascended, objects could be discerned at a great distance, and occasionally a half-roasted deer or elk was seen plunging about, driven to madness by its tortures. And frequently the dead bodies of smaller animals were found that could find no safety in flight.

JONES.

FLODDEN FIELD.

BLOUNT and Fitz-Eustace rested still
With Lady Clare upon the hill ;
On which (for far the day was spent)
The western sunbeams now were bent.
The cry they heard, its meaning knew,
Could plain their distant comrades view :
Sadly to Blount did Eustace say,

“Unworthy office here to stay !
No hope of gilded spurs to-day.—
But see ! look up—on Flodden bent,
The Scottish foe has fired his tent.”

And sudden, as he spoke,
From the sharp ridges of the hill,
All downward to the banks of Till

Was wreathed in sable smoke.
Volumed and fast, and rolling far,
The cloud enveloped Scotland's war,

As down the hill they broke ;
Nor martial shout, nor minstrel tone,
Announced their march ; their tread alone,
At times one warning trumpet blown,

At times a stifled hum,
Told England, from his mountain throne

King James did rushing come.—
Scarce could they hear, or see, their foes
Until at weapon point they close.
They close, in clouds of smoke and dust,
With sword-sway, and with lance's thrust ;

And such a yell was there
Of sudden and portentous birth,
As if men fought upon the earth

And fiends in upper air ;
O life and death were in the shout,
Recoil and rally, charge and rout,

And triumph and despair.
Long looked the anxious squires ; their eye
Could in the darkness nought descry.
At length the freshening western blast
Aside the shroud of battle cast.
And, first, the ridge of mingled spears
Above the brightening cloud appears ;
And in the smoke the pennons flew,
As in the storm the white sea-mew.

Then marked they, dashing broad and far,
The broken billows of the war,
And plumed crests of chieftains brave,
Floating like foam upon the wave ;

But nought distinct they see :
Wide raged the battle on the plain ;
Spears shook and falchions flashed amain ;
Fell England's arrow-flight like rain ;—
Crests rose, and stooped, and rose again,
Wild and disorderly.

Amid the scene of tumult, high
They saw Lord Marmion's falcon fly :
And stainless Tunstall's banner white,
And Edmund Howard's lion bright,
Still bear them bravely in the fight ;

Although against them come
Of gallant Gordons many a one,
And many a stubborn Badenoch man,
And many a rugged border clan,
With Huntly, and with Home.

Far on the left, unseen the while,
Stanley broke Lennox and Argyle ;
Though there the western mountaineer
Rushed with bare bosom on the spear,
And flung the feeble targé aside,
And with both hands the broadsword plied.
'Twas vain :—but Fortune, on the right,
With fickle smile cheered Scotland's fight.
Then fell that spotless banner white,

The Howard's lion fell ;
Yet still Lord Marmion's falcon flew
With wavering flight, while fiercer grew
Around the battle-yell.

The Border slogan rent the sky !
A Home ! a Gordon ! was the cry :

Loud were the clanging blows ;
Advanced,—forced back,—now low, now high,
The pennon sunk and rose ;
As bends the bark's mast in the gale,
When rent are rigging, shrouds, and sail,
It wavered 'mid the foes.

The war, that for a space did fail,
Now trebly thundering swelled the gale,
And Stanley ! was the cry :—
A light on Marmion's visage spread,
And fired his glazing eye :
With dying hand, above his head,
He shook the fragment of his blade,
And shouted " Victory !"—
" Charge, Chester, charge ! On, Stanley, on !"
Were the last words of Marmion.

By this, though deep the evening fell,
Still rose the battle's deadly swell ;
For still the Scots, around their king,
Unbroken, fought in desperate ring.
Where's now their victor vaward wing ?
Where Huntly, and where Home ?
O, for a blast of that dread horn,
On Fontarabian echoes borne,
That to King Charles did come,
When Roland brave, and Olivier,
And every paladin and peer,
On Roncesvalles died !

But, as they left the darkening heath,
More desperate grew the strife of death.
The English shafts in volleys hailed ;
In headlong charge their horse assailed ;
Front, flank, and rear the squadrons sweep

To break the Scottish circle deep,
 That fought around their king:
 But yet, though thick the shafts as snow,
 Though charging knights like whirlwinds go,
 Though billmen ply the ghastly blow,
 Unbroken was the ring;
 The stubborn spearmen still made good
 Their dark impenetrable wood,
 Each stepping where his comrade stood
 The instant that he fell.
 No thought was there of dastard flight;
 Linked in the serried phalanx tight,
 Groom fought like noble, squire like knight,
 As fearlessly and well;
 Till utter darkness closed her wing
 O'er their thin host and wounded king.
 Then skilful Surrey's sage commands
 Led back from strife his shattered bands;
 And from the charge they drew,
 As mountain waves from wasted lands
 Sweep back to ocean blue.
 Then did their loss his foemen know;
 Their king, their lords, their mightiest low,
 They melted from the field as snow,
 When streams are swollen and south winds blow,
 Dissolves in silent dew.

Tweed's echoes heard the ceaseless plash,
 While many a broken band,
 Disordered, through her currents dash,
 To gain the Scottish land;
 To town and tower, to down and dale,
 To tell red Flodden's dismal tale,
 And raise the universal wail.
 Tradition, legend, tune, and song
 Shall many an age that wail prolong:

Still from the sire the son shall hear
Of the stern strife, and carnage drear,
Of Flodden's fatal field,
Where shivered was fair Scotland's spear,
And broken was her shield !

SCOTT.

PÈRE LA CHAISE.

I CONTINUED my walk through the numerous winding paths, as chance or curiosity directed me. Now I was lost in a little green hollow, overhung with thick-leaved shrubbery, and then came out upon an elevation, from which, through an opening in the trees, the eye caught glimpses of the city, and the little esplanade, at the foot of the hill, where the poor lie buried. There poverty hires its grave, and takes but a short lease of the narrow house. At the end of a few months, or at most of a few years, the tenant is dislodged to give place to another, and he in turn to a third.

Yet, even in that neglected corner, the hand of affection had been busy in decorating the hired house. Most of the graves were surrounded with a slight wooden paling, to secure them from the passing footstep ; there was hardly one so deserted as not to be marked with its little wooden cross, and decorated with a garland of flowers ; and here and there I could perceive a solitary mourner, clothed in black, stooping to plant a shrub on the grave, or sitting in motionless sorrow beside it.

As I passed on, amid the shadowy avenues of the cemetery, I could not help comparing my own impressions with those which others have felt when walking alone among the dwellings of the dead. Are, then, the sculptured urn and storied monument nothing more than symbols of family pride ? Is all I see around me a memorial of the living more than of the dead—an empty show of sorrow, which

thus vaunts itself in mournful pageant and funeral parade? Is it indeed true, as some have said, that the simple wild-flower, which springs spontaneously upon the grave, and the rose, which the hand of affection plants there, are fitter objects wherewith to adorn the narrow house? No! I feel that it is not so! Let the good and the great be honoured even in the grave. Let the sculptured marble direct our footsteps to the scene of their long sleep; let the chiselled epitaph repeat their names, and tell us where repose the nobly good and wise! It is not true that all are equal in the grave. There is no equality even there. The mere handful of dust and ashes,—the mere distinction of prince and beggar,—of a rich winding-sheet and a shroudless burial,—of a solitary grave and a family vault,—were this all, then, indeed, it would be true that death is a common leveller.

Such paltry distinctions as those of wealth and poverty are soon levelled by the spade and mattock; the damp breath of the grave blots them out for ever. But there are other distinctions which even the mace of death cannot level or obliterate. Can it break down the distinction of virtue and vice? Can it confound the good with the bad? the noble with the base? all that is truly great, and pure, and god-like, with all that is scorned, and sinful, and degraded? No! Then death is not a common leveller! Are all alike beloved in death and honoured in their burial? Does every grave awaken the same emotions in our hearts? and do the footsteps of the stranger pause as long beside each funeral-stone? No! Then all are not equal in the grave! And as long as the good and evil deeds of men live after them, so long will there be distinctions even in the grave. The superiority of one over another is in the nobler and better emotions which it excites; in its more fervent admonitions to virtue; in the livelier recollection which it awakens of the good and the great, whose bodies are crumbling to dust beneath our feet!

If, then, there are distinctions in the grave, surely it is not unwise to designate them by the external marks of honour. These outward appliances and memorials of respect—the mournful urn—the sculptured bust—the epitaph, eloquent in praise—cannot indeed create these distinctions, but they serve to mark them. It is only when pride or wealth builds them to honour the slave of mammon or the slave of appetite, when the voice from the grave rebukes the false and pompous epitaph, and the dust and ashes of the tomb seem struggling to maintain the superiority of mere worldly rank, and to carry into the grave the baubles of earthly vanity—it is then, and then only, that we feel how utterly worthless are all the devices of sculpture, and the empty pomp of monumental brass! LONGFELLOW.

THE MOUTHS OF ANIMALS.

IN comparing different animals, I know no part of their structure which exhibits greater variety, or, in that variety, a nicer accommodation to their respective convenience, than that which is seen in the different formations of their *mouthis*. Whether the purpose be the reception of aliment merely, or the catching of prey, the picking up of seeds, the cropping of herbage, the extraction of juices, the suction of liquids, the breaking and grinding of food, the taste of that food, together with the respiration of air, and, in conjunction with it, the utterance of sound; these various offices are assigned to this one part, and, in different species, provided for, as they are wanted, by its different constitution. In the human species, for as much as there are hands to convey the food to the mouth, the mouth is flat, and, by reason of its flatness, fitted only for *reception*: whereas the projecting jaws, the wide gape, the pointed teeth of the dog, and his affinities, enable

them to apply their mouths to *snatch and seize* the objects of their pursuit. The full lips, the rough tongue, the peculiar palate, the broad cutting teeth of the ox, the deer, the horse, and the sheep, qualify this tribe for *browsing* upon their pasture; either gathering large mouthfuls at once, where the grass is long, which is the case with the ox in particular; or, biting close, where it is short, which the horse and the sheep are able to do, in a degree that one could hardly expect. The retired under-jaw of a swine *works in the ground*, after the protruding snout, like a prong or ploughshare, has made its way to the roots upon which it feeds. A conformation so happy was not the gift of chance.

In *birds*, this organ assumes a new character; new both in substance and in form; but, in both, wonderfully adapted to the wants and uses of a distinct mode of existence. We have no longer the fleshy lips, the teeth of enamelled bone: but we have, in the place of these two parts, and to perform the office of both, a hard substance, of the same nature with that which composes the nails, claws, and hoofs of quadrupeds, cut out into proper shapes, and mechanically suited to the actions which are wanted. The sharp edge and tempered point of the *sparrow's bill* picks almost every kind of seed from its concealment in the plant; and not only so, but hulls the grain, breaks and shatters the coats of the seed, in order to get at the kernel. The *hooked beak* of the hawk tribe separates the flesh from the bones of the animals which it feeds upon, almost with the cleanness and precision of a dissector's knife. The butcher bird transfixes its prey upon the spike of a thorn, whilst it picks its bones. In some birds of this class we have the *cross-bill*, that is, both the upper and lower bill hooked, and their tips crossing. The *spoon-bill* enables the goose to graze, to collect its food from the bottom of pools, or to seek it amidst the soft or liquid substances with which it is mixed. The *long tapering bill* of the snipe and wood-

cock penetrates still deeper into moist earth, which is the bed in which the food of that species is lodged. This is exactly the instrument which the animal wanted. It did not want strength in its bill, which was inconsistent with the slender form of the animal's neck, as well as unnecessary for the kind of aliment upon which it subsists ; but it wanted length to reach its object.

Birds that live by suction have what are called by naturalists *serrated or dentated bills*, the inside of which, towards the edge, is thickly set with parallel or concentric rows of short, strong, sharp-pointed prickles. These prickles, though called teeth, are not for the purpose of mastication, like the teeth of quadrupeds : nor yet, as in fish, for the seizing and retaining of their prey, but for a quite different use. They form a filter. The duck, by means of them, discusses the mud, examining with great care the puddle. They break every mixture which is likely to contain her food.—If we had seen no other than the mouths of quadrupeds, we should have thought no other could have been formed. Little could we have supposed, that all the purposes of a mouth furnished with lips, and armed with teeth, could be answered by an instrument which had none of these—could be supplied, and that with many additional advantages, by the hardness, and sharpness, and figure of the bills of birds.

Every thing about the animal mouth is mechanical. The teeth of fish have their points turned backward, like the teeth of a wool or cotton card. The teeth of lobsters work one against another, like the sides of a pair of shears. In many insects the mouth is converted into a pump or sucker, fitted at the end sometimes with a wimble, sometimes with a forceps ; by which double provision, viz., of the tube and the penetrating form of the point, the insect first bores through the integument of its prey, and then extracts the juices. And, what is most extraordinary of all, one sort of mouth, as the occasion requires, shall be changed into

another sort. The caterpillar could not live without teeth ; in several species, the butterfly formed from it could not use them. The old teeth, therefore, are cast off with the *exuviae* of the grub ; a new and totally different apparatus assumes their place in the fly. Amid these novelties of form, we sometimes forget that it is, all the while, the animal's *mouth* ; that, whether it be lips, or teeth, or bill, or beak, or shears, or pump, it is the same part diversified ; and it is also remarkable that, under all the varieties of configuration with which we are acquainted, and which are very great, the organs of taste and smelling are situated near each other.

PALEY.

THE ARCTIC REGIONS.

NATURE in these regions wears an aspect of awful majesty and grandeur, unrelieved by the softer and gentler beauties which distinguish her in the south. In the islands of these seas, no meadows smile in emerald verdure, no waving corn-fields gladden the heart of man with their golden undulations ; no songs of jocund birds usher in the morning, nor is the evening soothed with the indefinable murmur of myriads of humming insects. All is dreary solitude ; and the death-like silence that pervades the scene, inspires a feeling of involuntary awe, as if the hardy explorer had intruded into a region where he ought not to be. The most northern land known to exist is that of the islands of Spitzbergen, the extreme point of which approaches to within ten degrees of the Pole. The coast is generally lofty and precipitous, and is visible in clear weather at a great distance, presenting the peculiar features of Arctic scenery in great perfection. The rocks rise in bold and naked grandeur, their summits shooting into innumerable peaks and ridges, and needles, of fantastic forms, reminding the beholder of the domes and spires

of a vast city. Most of these are of dark colours, standing out in bold relief against the sky ; but their appearance is rendered highly picturesque by the vivid contrasts continually presented by the broad patches of unsullied snow capping their summits, or resting on the ledges and terraces into which their surface is broken, as well as by the glistening accumulations of ice, which fill the valleys nearly to the level of the mountain tops. In approaching the coast in summer, the view is often concealed by the dense fogs so prevalent in that season : suddenly the mist disperses, and these broad contrasts, shown out in startling distinctness beneath a cloudless sun, seem like the sudden creation of a magician's wand.

Icebergs.—The most prominent object in these dreary seas is ice. Even on the land, a large portion of the ground is concealed by perpetually accumulating ice, while the same substance covers to a great extent the surface of the ocean. There is scarcely a more beautiful object than one of the towering icebergs that so abound in these regions, and that annually come down upon the southern current, into the temperate zone. They are often of vast dimensions ; one seen by Ross, in Baffin's Bay, was estimated to be nearly two miles and a half long, two miles wide, and fifty feet high. Of course this estimate respects only that part which is visible above the surface of the water ; but this is a very small portion of its actual bulk. The relative proportion of the part which is exposed to that which is submerged, varies according to the character of the ice : in Newfoundland, the part under water is usually considered to be ten times greater than that exposed, but if the ice be porous, it is not more than eight times greater ; while, on the other hand, Phipps found that of dense ice, fourteen parts out of fifteen sunk. These floating icebergs are various in form ; sometimes rising into pointed spires, like steeples ; sometimes taking the form of a conical hill ; sometimes that of an overhanging

cliff, of most threatening brow. The action of the waves on the portion beneath the surface, undermining the sides, and wearing away the projections, continually alters the position of the centre of gravity; and sometimes the effect of this is to cause the whole gigantic mass to roll over with a thundering crash, making the sea to boil into foam, and causing a swell that is perceptible for miles.

Day and Night.—There is no phenomenon that more forcibly brings before the mind of a stranger the novelty of his position, than the absence, on entering within the Arctic circle, of that constant alternation of day and night, which we are accustomed to consider as inseparable from the constitution of our world. In Spitzbergen the day is rather more than four months long: the night is of the same duration, and in the two months which intervene between the sun's constant presence and his constant absence, that luminary rises and sets as with us. But the appearance of the sun in spring is accelerated, and its disappearance in autumn retarded, a few days, by the influence of refraction: so that it is actually seen somewhat longer than it is invisible. Then the darkness of the Arctic winter is not total and incessant; even in the depth of the season, at Spitzbergen, there is a faint twilight for six hours each day, and this is longer and brighter in proportion to the distance from mid-winter on either hand. The moon also shines in those clear skies with peculiar brilliance, and is often visible twelve or fourteen days without setting. There is, moreover, a large proportion of the time, in which the Aurora-Borealis illumines the heavens, and sometimes with an intensity little inferior to moonlight.

Green Water.—Navigators had often noticed, in certain parts of the Arctic Sea, that the water, instead of retaining its usual transparency, was densely opaque, and that its hue was grass-green, or sometimes olive-green. It is commonly known as the "green-water," and though

liable to light shiftings from the force of currents, is pretty constant in its position, occupying about one-fourth of the whole Greenland Sea. Mr. Scoresby was the first who ascertained the cause of this peculiar hue : on examination, he found that the water was densely filled with very minute *Medusæ*, for the most part undistinguishable without a microscope. He computes that within the compass of two square miles, supposing these animalcules to extend to the depth of two hundred and fifty fathoms, there would be congregated a number which eighty thousand persons, counting incessantly from the Creation until now, would not have enumerated, though they worked at the rate of a million per week ! And when we consider that the area occupied by this green water in the Greenland seas is not less than twenty thousand square miles, what a vast idea does it give us of the profusion of animal life, and of the beneficence of Him who "openeth His hand, and satisfieth the desire of every living thing !"

GOSSE.

AMIDST black rocks, that lift on either hand
Their countless peaks, and mark receding land ;
Amidst a tortuous labyrinth of seas
That shine around the arctic Cyclades ;
Amidst a coast of dreariest continent,
In many a shapeless promontory rent ;
—O'er rocks, seas, islands, promontories spread,
The Ice-Blink rears its undulated head ;
On which the sun, beyond th' horizon shrined,
Hath left his richest garniture behind ;
Piled on a hundred arches, ridge by ridge,
O'er fixed and fluid strides the Alpine bridge,
Whose blocks of sapphire seem to mortal eye
Hewn from cerulean quarries of the sky ;
With glacier battlements, that crowd the spheres,

The slow creation of six thousand years,
Amidst immensity it towers sublime,
Winter's eternal palace, built by Time.
All human structures by his touch are borne
Down to the dust ; mountains themselves are worn
With his light footsteps ; *here* for ever grows,
Amid the region of unmelting snows,
A monument ; where every flake that falls,
Gives adamantine firmness to the walls.
The sun beholds no mirror, in his race,
That shows a brighter image of his face ;
The stars, in their nocturnal vigils, rest
Like signal fires on its illumined crest ;
The gliding moon around the ramparts wheels,
And all its magic lights and shades reveals ;
Beneath, the tide with idle fury raves
To undermine it through a thousand caves ;
Rent from its roof though thundering fragments oft
Plunge to the gulf, immovable aloft,
From age to age, in air, o'er sea, on land,
Its turrets heighten, and its piers expand.

MONTGOMERY.

MIDNIGHT hath told his hour : the moon, yet young,
Hangs, in the argent west, her bow unstrung ;
Larger and fairer, as her lustre fades,
Sparkle the stars amidst the deepening shades :
Jewels more rich than night's regalia gem
The distant Ice-Blink's spangled diadem ;
Like a new morn from orient darkness, there
Phosphoric splendours kindle in mid-air,
As though from heaven's self-opening portals came
Legions of spirits in an orb of flame,—
Flame that from every point an arrow sends,
Far as the concave firmament extends :

Spun with the tissue of a million lines,
 Glistening like gossamer the welkin shines :
 The constellations in their pride look pale
 Through the quick trembling brilliance of that veil ;
 Then, suddenly converged, the meteors rush
 O'er the wide south ; one deep vermilion blush
 O'erspreads Orion glaring on the flood,
 And rabid Sirius foams through fire and blood ;
 Again the circuit of the pole they range,
 Motion and figure every moment change,
 Through all the colours of the rainbow run,
 Or blaze like wrecks of a dissolving sun :
 Wide ether burns with glory, conflict, flight,
 And the glad ocean dances in the light.

Id.

SHOOTING THE RAPIDS OF THE ST. LAWRENCE.

GLIDING down the river we were soon in the midst of islands, and found ourselves ere long at the commencement of the rapids. The first two or three which we passed were not sufficiently formidable to cause more than a slight ripple on the surface ; but by-and-by we approached the great rapid, that called the Long Sault, and preparation was made for its descent. Even those accustomed to shoot it seemed to grow more and more excited as we approached ; it was no wonder, then, that a novice like myself should partake largely of the feeling. I took my post upon deck, where I resolved to remain until the exciting episode was over. The rapid was in sight. Independently of the fact that I was about to shoot it, it was an object of the highest interest to me, for who has not heard of the rapids of the St. Lawrence ? We were close to the Canada shore, some wooded islands intervening between us and the

American bank. The rapid commenced amongst the islands, but did not exhibit itself in its full force and grandeur until it emerged from them into the clear and somewhat contracted channel immediately below. As far as we could see down the river, the dark leaden looking water was broken into billowy masses crested with spray, like the breakers upon a low rocky shore, stretching far out to sea; whilst the roar with which the delirious current was accompanied, was like the sound of a cataract hard by. For nearly a quarter of a mile above the rapid the current ran smoothly, but with great velocity, which increased as it approached the line at which the channel dipped still more, agitating the mighty volume, which seemed to tear itself to pieces against the sunken rocks, over which it dashed with impetuous speed. A period, as it were, of breathless expectation ensued, from the time of our entering upon the preliminary current, until we crossed the line in question. The steamer seemed here to take its race for the plunge which it made from the smooth into the broken current. To one unaccustomed to such a scene, a moment or two of semistupefaction ensues, after getting fairly within the embraces of the rapid. It seemed to me at first that we had suddenly been brought to a halt, and were standing still, with the water boiling and surging around us in a mighty caldron, whilst islands, mainland, rocks, trees, houses, and every fixed thing ashore seemed suddenly to have been loosened from their foundations, and to be reeling around me. On becoming more collected I discerned the real state of things; the steamer was shooting like an arrow along the stormy descent, lashing the angry waters with her lusty paddle-wheels to give her steerage-way. She thus rushed on for miles in the course of a few minutes, the objects ashore flitting by us as do those which line a railway. By-and-by we reached a point where the current, although yet greatly agitated, was comparatively tranquil, when the very steamer seemed to breathe more freely after

her perilous race. On looking around me, the islands were gone, the broad and broken channel was no longer to be seen, the banks had fallen from their well-wooded elevations almost to the water's edge, the stream was contracted—it was placid in front of us, but wildly agitated behind—in short, the whole scene had changed. The whole looked like a troubled dream, and it was some time ere I could recall, in their proper succession, the different incidents which marked it.

MACKAY.

DOWN IN A DIVING-BELL.

LET us suppose, good reader, that you and I have taken our seats in a diving-bell. It shall be one of the open style—such as they used to employ at the Polytechnic in Regent-street. You know the principle of its construction? Place an insect or two upon a cork in a pail of water—invert a tumbler over that cork—then push the apparatus to the bottom of the vessel; and, on raising the glass to the surface, the little voyagers will come up perfectly safe and unsoaked. The bell is *our* tumbler: the sea is our tub; and we are the insects in question.

The tackle begins to creak, and the mouth of the machine dips into the water. I look rather pale, don't I? Quite natural! You feel pretty much as if you were going to the place of execution? Nothing more reasonable! I should like to know who would not share in my pallor and your perturbation, if forced into a similar situation. Some individuals might indeed attempt to conceal their emotions; but let us be honest, and confess that we are dreadfully alarmed!

First of all, it occurs to you that the bell may perhaps tilt up or turn over on one side just as would happen to the tumbler if it were not kept quiet. And such might be the case, were not the machine weighted at the lower

part so as to preserve it perfectly upright in its descent, spite of currents or other disturbing causes. Dismiss your fears, therefore, on this score; we shall go down as straight as a plummet, and come up again—so I fervently hope, and so you fervently respond—without ever deserting the true perpendicular.

In the next place, you will naturally feel some solicitude respecting the supply of air. I do. Show me the man that would not, if he knew a particle about the chemistry of respiration. Shut up in a closed vessel like this for more than a few minutes, we should perish like the poor mice which philosophers have occasionally subjected to scientific torture in an exhausted receiver. Let a man be fastened up in Westminster Hall, every crevice in the building being hermetically sealed, and the prisoner would go on abstracting oxygen from the atmosphere until it became thoroughly vitiated, when of course death must promptly ensue. Hence the due renovation of the air is a vital point in the management of the diving-machine. The force-pump is the safest contrivance for feeding the apparatus with this cheap but indispensable element. Dr. Halley employed a couple of barrels, which were raised and lowered alternately, like buckets in a well. The contents of each cask were successively decanted into the machine through a leathern pipe, a hole being left in the lower part, in order that the pressure of the water might drive out the air. A valve, at the top of the bell, permitted the diver to discharge the corrupted atmosphere from time to time; and then a rush of bubbles to the surface covered the sea for some small distance with white foam, and made it boil as if Behemoth were disporting himself beneath. By these means, the Doctor was enabled to remain under water for four hours and a-half; and, enchanted by the success of his contrivance, he intimates that he might, perhaps, have tarried there all his life, if he had liked.

By this time we are fairly in the water, and I observe that you carry your fingers to your ears, and look as if you were rather troubled in that region. It is the same with myself. We begin to complain of a horrible pressure upon our "drums." We are both of opinion that they will give way in case we are not speedily relieved. We feel, indeed, as if some invisible sprite were thrusting quills into the auditory passages. The philosophy of the nuisance is this, the atmosphere of the bell necessarily grows denser as we descend, because it is crushed into smaller compass by the increasing weight of the water; consequently, as the air within the cavities of the ear is thinner than that without, the intervening membrane will be cruelly stretched, it might possibly be ruptured, unless the equilibrium were restored. On one occasion, a diver attempted to protect himself by filling the external chambers with chewed paper; but on arriving at the surface, he found that the pieces had been wedged in so forcibly that they were extracted with considerable difficulty.

We proceed slowly. Perhaps you think the men who are lowering us are anxious to make the most of our agony. It certainly looks very like it; but there is one good reason at least why we should sink in a leisurely fashion. Triewald mentions a diver who was let down precipitately for the space of a fathom, owing to the carelessness of the people who worked the bell. The result was, that the rapid condensation of the air forced the blood out of his nose and ears, and compressed his body as if it had been suddenly loaded with lead. Let us hope, therefore, that the men will be particularly cautious on this point, for a run of a few feet would be highly objectionable.

What is that you say? It is growing excessively hot, you think. Undoubtedly. This is another consequence of the pressure to which our little atmosphere is exposed. Air contains a quantity of caloric, which may be squeezed out of it as water is squeezed out of a sponge. Were the

atmosphere of our globe suddenly and extensively compressed, its caloric would be expelled so copiously that it might set fire to every combustible thing, and melt or vitrify the whole surface. Besides, as the warmer and lighter air always ascends, the upper portion of the bell (the place where our heads are at present stationed) must necessarily be the hottest latitude in the machine. You begin to fear, therefore, that you will probably faint; and you wish to know whether my sensations are the same. I will give you an explicit reply. I scorn to use any disguise. I have the honour to feel equally uneasy with yourself; and I candidly confess my apprehensions that if the temperature should continue to rise until it reaches the swooning point (unmarked on most thermometers), our friends on *terra firma* may have reason to regret that we have ever ventured upon this perilous enterprise.

Remembering, however, that fainting has become quite unfashionable, I make a vigorous effort to master my emotions, and request your attention to the fact that whilst the air appears to grow hotter the water in reality becomes cooler. For, as the warmer, and consequently the lighter, fluid must float upon the heavier, the sea will gradually increase in chilliness until (if deep enough) a certain point is attained; so that even within the tropics, where a blazing sun is playing upon the surface of the ocean, water has been hoisted up from below at a temperature not many degrees above the freezing point. And here, also, I am reminded of another little philosophical peculiarity of our position. Your voice sounds rather thin and feeble; and I notice that you do not seem to catch my words as distinctly as might be expected, considering that we are in such friendly proximity. How is this? It is well known that the loudness of a sound is affected by the density or tenuity of the air. Every person knows that when a bell is rung in the receiver of an air-pump, the noise grows fainter as the winch is worked, until at length you see the

clapper wag, but hear no merry tinkle. The converse should, of course, obtain if the atmosphere is compressed; and hence a pistol, which would produce an explosion like that of a cracker on the top of a high mountain, ought to go off like a little cannon when discharged in a diving-machine.

DOWN IN A DIVING-BELL.—*Continued.*

MEANWHILE, we continue to descend inch by inch. The light, of course, becomes dimmer as we proceed. Should the water be at all turbid, we are soon shrouded in what Halley calls "perfect night." Should it prove tolerably pellucid, we receive a softened sort of radiance, which is green where the liquid is fresh, blue where it is salt.

Ah! what is that I hear? You don't like the present state of things at all; you have a strong objection to darkness, and particularly to darkness in a diving-bell. Why, my dear friend, these are precisely my own sentiments; but I am afraid we cannot give the signal for recall with any credit, until we have gone a little farther into the deep. Undoubtedly, if we were to sink as far as 700 feet, scarcely a ray of the sun, generally speaking, could follow us there. It is calculated that, at a depth of 200 feet, the lustre of that luminary is only equal in effect to the light of a farthing candle shining upon you at the distance of a foot. Let it not be supposed, however, that the beams of the great orb are stripped of their fire and heat by plunging through a stratum of the coldest water. A workman employed on the Plymouth breakwater went down in a diving-bell which had a convex glass fixed in the top for the purpose of letting in light. The glass unexpectedly operated as a burning lens, for the poor fellow soon discovered that a conflagration was raging on his head, his paper cap having come into focus, and his scalp being perilled by this touch of solar pleasantry.

And since without light there can be no colour, it has been observed that the hues of animals which dwell at various depths in the ocean, decline in intensity until a certain limit is reached; and if, beyond that point, life still exists, it appears to be as pallid and cadaverous as if it were already on the brink of death.

Further and further we continue to sink. The time we have consumed, and—let us be frank—the trepidation we have endured, might almost induce us to believe that we had descended some thousands of feet into the watery abyss. And yet a few fathoms will measure the whole distance we have described. Since the height, and consequently the weight of the fluid above us is increasing at every step of our progress, it follows that the space reserved for air within the bell is constantly contracting. You observe that the liquid is gradually rising in the machine. You have had to double up your legs already, I perceive; and if we proceed much deeper we shall be immersed to our chests, and almost strangled in the embrace of the floods. For, at a depth of about thirty-two feet, we are exposed to a pressure equivalent to that of a double atmosphere. In other words, an additional weight of from fourteen to fifteen pounds is put upon every one of our square inches. The same invisible sprite who amuses himself by poking invisible quills into your ears has been silently piling up several hundred-weights upon our frames, so that each of us now sustains a burden of more than twenty tons. “What Atlases we must be!” you exclaim. Fortunately there is no vacuum within the body, otherwise it would collapse and shrivel beneath the prodigious incubus. If a diving-apparatus were a closed machine, it might be lowered to a greater depth than an open bell; but it would be necessary to construct it of stout materials in order that it might resist the powerful strain to which it would be exposed. Sir John Herschel mentions an individual who fitted up a vessel for recovering treasure from sunken ships, and who went down

by way of trial, but never returned to the light; for, as no adequate allowance had been made for the increased pressure of water, the frail fabric was crushed like a band-box in the coils of a boa-constrictor.

But here our discourse is interrupted by a slight shock. I don't like it at all. My nerves unfortunately are not in the best possible order for such an excursion, but I trust I am not going to be seriously frightened. You, too, begin to feel strongly impressed with the solemnities of our position. Quite reasonable that you should!

The cause of the shock, however, is soon explained. The bell has grazed the side of a sunken rock, and, after a few concussions it alights on the bed of the sea. Fortunately we have made our descent in a shallowish quarter. All divers are not equally happy in their landing, if it may be so termed. Triewald refers to one who came into contact with the bolt of a wreck, which pierced a hole in the side of his machine. The water began to rush in, the air began to rush out; and the big bubbles, gurgling to the surface, threw the attendants into great consternation. With remarkable presence of mind, however, the diver thrust his arm into the aperture, and, having given the signal, was drawn up in safety, thanks to this extemporaneous plug.

Once down at the bottom of the ocean, the diver may leave his bell if he is provided with aquatic armour, of which various kinds have been devised. These mainly consist of a stout helmet for the head, and a strong sheathing for the upper part of the frame, or else the person is protected by a sort of case from which the arms protrude for the purpose of gathering the treasure which somehow or other most people expect to find at the bottom of the sea. To supply the explorer with air a flexible tube is connected with the bell, or a sufficient allowance of breathing material is forced into a belt by means of a condensing pump. Thus equipped, I fancy that any sea-deity who

may chance to fall in with one of these human monsters—foraging for gold in his domains—will be well-nigh scared out of his wits by the uncouth apparition.

But after all, you ask, What is there to be seen at the bottom of the ocean? Ah, good reader, if you could walk across the bed of the Atlantic or Pacific, from continent to continent, it would be the strangest stroll that mortal ever took! You would find, if your faculties of vision were sufficiently sharpened for the purpose, that there were hill and valley—towering mountains whose tops were islands, and huge plains rivalling the great deserts of the land in their desolate sweep, with here and there volcanic cones, sheets of hardened lava, springs of boiling water, and terrible chasms left by the earthquakes which have gashed the ground. In the deeper parts of the sea not a blade of true vegetation could be detected. There no ray of light from the smiling sun ever pierces. A stillness like that of an unpeopled planet prevails, for the fiercest tempest which ploughs up the surface in huge billows, cannot trouble the tranquillity of those awful abysses, and there the great disturber, man, never comes except dying—dead. All, in fact, is gloom and desolation. For though the plummet has faintly probed those depths, what news has it brought up to the dwellers on the land? Simply this, that the bed of the ocean is a vast cemetery, strewn with the shells of microscopic creatures, which once lived near the surface, and when their little life was ended, sank slowly, weeks or months being consumed in their funeral march to the bottom, where they will repose till some day this spacious burial-ground will be uplifted, and then they will appear as compact and massive rocks. But “the depths have more.” For there lie the remnants of the gallant ship which foundered in storm, or sunk in battle—the cannon and cutlass, which are now corroding in peace—the costly merchandise which, saved, would have secured its owner’s fortune; lost, destroyed his hopes, and broke his heart—

the gold for which the possessor bartered his honour here, and perhaps his happiness hereafter—and, mixed with all, the grinning skull and ghastly skeleton—the bones of the fierce pirate and his helpless prey—relics alike of the lawless rovers who swept the ocean for plunder, and of the honest mariner who died in the service of civilization, and went down to rest in hope till the sea shall be summoned to give up its dead, both good and bad, both small and great.

Eclectic Review.

THE DROWNED AT SEA.

NEVER bronze or slab of stone
May their sepulchre denote ;
O'er their burial-place, alone,
Shall the shifting sea-weed float.
Not for them the quiet grave
Underneath the daisied turf ;
They rest below the restless wave,
They sleep below the sleepless surf.
O'er them shall the waters wrestle
With the whirlwind from the land,
But their bones will only nestle
Closer down into the sand :
And for ever wind and surge,
Loud or low, shall be their dirge ;
And each idle wave that breaks
Henceforth upon any shore,
Shall be dearer for their sakes,
Shall be holy evermore.

E. H. O.

SOLILOQUY ON SLEEP.

How many thousands of my poorest subjects
Are at this hour asleep ! O gentle sleep,
Nature's soft nurse, how have I frighted thee,
That thou no more wilt weigh my eyelids down,
And steep my senses in forgetfulness ?
Why rather, Sleep, liest thou in smoky cribs,
Upon uneasy pallets stretching thee,
And hush'd with buzzing night-flies to thy slumber,
Than in the perfum'd chambers of the great,
Under the canopies of costly state,
And lull'd with sounds of sweetest melody ?
O thou dull god, why liest thou with the vile
In loathsome beds, and leav'st the kingly couch
A watch-case, or a common 'larum bell ?
Wilt thou, upon the high and giddy mast,
Seal up the ship-boy's eyes, and rock his brains,
In cradle of the rude imperious surge ;
And in the visitation of the winds,
Who take the ruffian billows by the top,
Curling their monstrous heads, and hanging them
With deaf'ning clamours in the slipp'ry clouds,
That, with the hurly, death itself awakes ?
Can'st thou, O partial Sleep, give thy repose
To the wet sea-boy in an hour so rude,
And, in the calmest and the stillest night,
With all appliances and means to boot,
Deny it to a King ?—Then, happy low, lie down !
Uneasy lies the head that wears a crown.

SHAKESPEARE.

VESUVIUS.

HAVING procured a competent number of animals, consisting equally of small active ponies and mules, with their attendants, we mounted and commenced at once our ascent from Resina.

On reaching the summit, we found a considerable change in the appearance of the large crater since our former visit. Instead of the comparatively level platform of hard lava lying ten or twelve feet lower than the edge on which we stood, and extending to the cone of the active crater in the centre, we found the whole surface greatly elevated, broken up, and heaved into irregular piles, evidently from the recent throes of the volcano beneath. Across this space, slowly winding among its chasms and irregularities, on came the moving lava towards the outer verge, where, after making a circuit almost beneath our feet, it swept round the mound on which we were stationed, and poured over the edge, sending up a heat and a sulphuric atmosphere almost intolerable within a few yards. After a little breathing space here, we went round the verge to a spot at some distance from the running lava, where the surface was not too hot to tread upon, and there bivouacked comfortably, producing our basket-stores of provisions, wherewith to beguile the remaining hours until sunset. After this event takes place, an Italian twilight does not long try the patience of those who long for darkness, as on this occasion we did. And now it was we found the fog amid which we had ascended an advantage to the scene. As evening drew on, the darkness was rendered by it doubly obscure, and the reflection of the lava upon the misty atmosphere, dispersing a fiery tinge above and all around, was beautiful and grand beyond description. Hitherto, during the time we waited, the volcano itself had been peculiarly quiet and inactive,—only one slight explosion

occurring—so much so that we feared a disappointment, and a party who had arrived before us actually took themselves off in despair. A hint from our good friend Salvatore made us act more wisely, and we were indeed abundantly rewarded by seeing it speedily throw off this temporary lethargy, and burst into the most magnificent explosions.

At six o'clock we were startled from our resting-place by a tremendous outburst, which seemed the beginning of a continued series for the whole evening. We sprang to our feet, and stumbling with great difficulty over the jagged masses of lava, scarcely half-cooled, and through an atmosphere at times pungent and stifling to an intolerable degree, we traced the fiery stream to its fearful source. Taking up our position immediately below the crater, we stood in breathless admiration, watching its convulsive throes succeeding each other at intervals of one or two minutes. At times it seemed to pause a little, as though for breathing space, then to increase in fury, sending up its roaring volleys of blood-red stones and dazzling meteors five or six hundred feet into the deep black night of the sky, rendered yet more black and dark by the smoke of the volcano, which at this hour usually collects in murky clouds about the mountain top. These brilliant messengers, after describing a graceful parabolic curve, fall around the sides of the cone in a shower of splendour,—mingling much of the beautiful with the terrible.

The scene, and our position, were extraordinary indeed ; and the feelings of awe, fascination, and subdued excitement, such as are likely to be but seldom called forth in the same degree during a lifetime. Again and again the idea arose, "Can we ever forget the sensations of this moment?" And yet there was little mingling of fear or nervous apprehension, though surrounded by objects that might well have caused such. We were conscious rather of an elevation of spirit corresponding in some degree with

the sublimity of the scene, and the vastness of the power whose operation we witnessed,—a more than ordinary realization of the presence of Him to whom earth and air, fire and water, yea all the powers of heaven and earth, are but the ministers of His will! Yet it were presumptuous to say that there is no danger to spectators in such a position ;—danger there must always be from the perfect uncertainty at what moment or in what place the volcano is next to find a vent. We were made to feel this especially as we stood on a little mound of lava near the mouth of the crater. On one side of this mound, and not above eight or ten feet from us, the eye looked directly into a cavern of fire,—not of flame, but of clear, quivering, glowing fire, like the heart of a fierce furnace seven times heated. This aperture might be about six feet in diameter ;—its depth—that of the mysterious world of terrors below! It was not a little appalling to discover, by looking at the ragged edges of this opening, how thin and slight is the crust interposed between the foot and the abyss over which it treads. Indeed this had already been evident from the innumerable rents and chasms that seamed the surface over which we had passed, and through which the red fire was often visible at the depth of not more than two inches ; and yet so firm and metal-like feels the resistance to one's step, that without this awful proof, the fact could scarcely be believed. From somewhere between this mound and the foot of the volcanic cone, though invisible for a few yards from what must have been its actual source, oozed forth, slowly and quietly, with a motion and consistency not inaptly likened to that of thick honey, the deep, red, glowing river of lava, winding its deliberate but irresistible way over the black rugged surface of the large old crater, which, as already explained, forms the whole table summit of the mountain,—creeping over the precipitous edge,—and then down, down—far into the thick darkness of the world below.

No description, no painting can give an idea of the intense and glowing red of this molten lava, as it issues fresh from the bowels of the earth. Liquid metal flowing from the furnace of an iron foundry is the only thing that conveys an idea of it, yet falls short of its vivid glare. A thin white vapour rose from the surface, and the light reflected from it, and colouring its ascending wreaths with a deep rich ruddy tint as it rose into the darkness, marked its downward course, rendering it visible from a great distance, and lending it a strange, wild, awful character, powerfully affecting the imagination. One can approach as near the running lava as the overpowering heat will permit, without the slightest apparent danger. We approached quite to the edge of it, and holding the ends of the staves, with which we were provided, to the lava, they flamed even before touching the liquid fire. One of our party availed himself of it to light a cigar, another did his best to roast an apple, but found the heat too great to complete the operation. Of course, in our cautious movements over the crackling surface, we were implicitly led and assisted by our guides, who bore flaming pine torches to light our footsteps,—little needed, indeed, while the artillery of the mountain was flashing in the sky, but very necessary in the deep darkness of the intervals. Strangely picturesque indeed were the figures of these men, seen in the flickering torchlight, standing in various attitudes upon the little eminences around, leaning on their long white staves, or grouped together around some fiery chasm, the ruddy glare of the fire thrown upwards on their swarthy visages and strange dresses. At times, too, one of them would start the first notes of a simple air, and then those around would catch it up, and conclude each verse with a burst of one of those wild and most musical choruses, which characterize the old native airs of Italy.

After enjoying the marvellous scene for some hours after daylight had departed, we bethought ourselves of re-

turn. Our descent was slow and cautious down the side of the great cone, very different from the mad flight we executed on our former expedition by daylight. Having at length discovered and aroused our horses and their keepers amid the darkness below, we mounted, and after a slow and most hazardous ride through the surrounding gloom, relieved only by the flickering light of the now exhausted torches, our perilous path conducted us at last in safety to the Hermitage, where we fell into the longer but safer carriage-road to Resina. By this time it had begun to rain a little ; and deprived of the artificial heat of the mountain, the air of these lower regions felt chilly and comfortless, contrasting, however, all the more agreeably—in retrospect at least, with the comfort that awaited us in our pleasant rooms at Naples.

M. I. M. D.

AUTUMN.

Who that has rambled by the side of one of our majestic rivers, at the hour of sunset, when the wildly romantic scenery around is softened and tinted by the voluptuous mist of evening ; when the bold and swelling outlines of the distant mountain seem melting into the glowing horizon, and a rich mantle of refulgence is thrown over the whole expanse of the heavens, but must have felt how abundant is nature in sources of pure enjoyment ; how luxuriant in all that can enliven the senses or delight the imagination. The jocund zephyr, full freighted with native fragrance, sues sweetly to the senses ; the chirping of the thousand varieties of insects with which our woodlands abound forms a concert of simple melody ; even the barking of the farm dog, the lowing of the cattle, the tinkling of their bells, and the strokes of the woodman's axe from the opposite shore, seem to partake of the softness of the scene, and fall tunelessly upon the ear ; while

the voice of the villager, chanting some rustic ballad, swells from a distance in the semblance of the very music of harmonious love.

Often have I rambled to the summit of some favourite hill, and thence, with feelings sweetly tranquil as the lucid expanse of the heavens that canopied me, have noted the slow and almost imperceptible changes that mark the waning year. There are many features peculiar to our autumn, and which give it an individual character: the "green and yellow melancholy" that first steals over the landscape—the mild and steady serenity of the weather, and the transparent purity of the atmosphere, speak not merely to the senses but the heart,—it is the season of liberal emotions. To this succeeds fantastic gaiety, a motley dress, which the woods assume, where green and yellow, orange, purple, crimson and scarlet, are whimsically blended together.—A sickly splendour this!—like the wild and broken-hearted gaiety that sometimes precedes dissolution, or that childish sportiveness of superannuated age, proceeding, not from a vigorous flow of animal spirits, but from the decay and imbecility of the mind. We might, perhaps, be deceived by this gaudy garb of nature, were it not for the rustling of the falling leaf, which, breaking on the stillness of the scene, seems to announce, in prophetic whispers, the dreary winter that is approaching. When I have sometimes seen a thrifty young oak changing its hue of sturdy vigour for a bright but transient glow of red, it has recalled to my mind the treacherous bloom that once mantled the cheek of a friend who is now no more; and which, while it seemed to promise a long life of jocund spirits, was the sure precursor of premature decay. In a little while, and this ostentatious foliage disappears—the close of autumn leaves but one wide expanse of dusky brown, save where some rivulet steals along, bordered with little strips of green grass—the woodland echoes no more to the carols of the feathered

tribes that sported in the leafy covert, and its solitude and silence are uninterrupted except by the plaintive whistle of the quail, the barking of the squirrel, or the still more melancholy wintry wind, which, rushing and swelling through the hollows of the mountains, sighs through the leafless branches of the grove, and seems to mourn the desolation of the year.

IRVING.

It was an eve of Autumn's holiest mood ;
The corn-fields, bathed in Cynthia's silver light,
Stood ready for the reaper's gathering hand ;
And all the winds slept soundly. Nature seemed
In silent contemplation to adore
Its Maker. Now and then the aged leaf
Fell from its fellows, rustling to the ground ;
And, as it fell, bade man think on his end.
On vale and lake, on wood and mountain high,
With pensive wing outspread, sat heavenly Thought,
Conversing with itself. Vesper looked forth
From out her western hermitage, and smiled ;
And up the east, unclouded, rode the moon,
With all her stars, gazing on earth intense,
As if she saw some wonder working there.

POLLOCK.

TO HESPERUS.

O HESPERUS ! thou bringest all good things—
Home to the weary, to the hungry cheer,
To the young bird the parent's brooding wings,
The welcome stall to the o'er-laboured steer ;
Whate'er of peace about our hearthstone clings,
Whate'er our household gods protect of dear,

Are gathered round us by thy look of rest ;
Thou bring'st the child, too, to the mother's breast.
Soft hour ! which wakes the wish and melts the heart
Of those who sail the seas, on the first day
When they from their sweet friends are torn apart ;
Or fills with love the pilgrim on his way
As the far bell of vesper makes him start,
Seeming to weep the dying day's decay ;
Is this a fancy which our reason scorns ?
Ah ! surely nothing dies, but something mourns !

BYRON.

Now came still evening on, and twilight gray
Had in her sober livery all things clad ;
Silence accompanied ; for beast and bird,
They to their grassy couch, these to their nests,
Were slunk, all but the wakeful nightingale ;
She all night long her amorous descant sung ;
Silence was pleased : now glowed the firmament
With living sapphires ; Hesperus, that led
The starry host, rode brightest, till the moon,
Rising in clouded majesty, at length,
Apparent queen, unveiled her peerless light,
And o'er the dark her silver mantle threw. MILTON.

EARTHQUAKE AT LISBON.

LISBON, the Portuguese capital, had already suffered greatly from an earthquake in 1531 ; and, since the calamity about to be described, has had three such visitations, in 1761, 1765, and 1772, which were not, however, attended by equally disastrous consequences. In the present instance, it had been remarked that, since the commence-

ment of the year 1750, less rain had fallen than had been known in the memory of the oldest inhabitants, unless during the spring preceding the calamitous event. The summer had been unusually cool ; and the weather fine and clear for the last forty days.

At length, on the first of November, 1755, about forty minutes past nine in the morning, a most violent shock of an earthquake was felt ; its duration did not exceed six seconds ; but so powerful was the concussion, that it overthrew every church and convent in the city, together with the royal palace, and the magnificent opera-house adjoining it ; in short, at a moderate computation, thirty thousand individuals perished. The sight of the dead bodies, and the shrieks of those who were half buried in the ruins, were terrible beyond description ; and so great was the consternation, that the most resolute person durst not stay a moment to extricate the friend he loved most affectionately, by the removal of the stones beneath the weight of which he was crushed. Self-preservation alone was consulted ; and the most probable security was sought, by getting into open places, and into the middle of the streets. Those who were in the upper stories of the houses, were in general more fortunate than those who attempted to escape by the doors, many of the latter being buried beneath the ruins, with the greater part of the foot passengers. Those who were in carriages escaped the best, although the drivers and cattle suffered severely. The number, however, of those who perished in the streets and in the houses, was greatly inferior to that of those who were buried beneath the ruins of the churches ; for, as it was a day of solemn festival, these were crowded for the celebration of the mass. They were more numerous than the churches of London and Westminster taken collectively ; and the lofty steeples in most instances fell with the roof, insomuch that few escaped.

The first shock, as has been noticed, was extremely short, but was quickly succeeded by two others ; and the whole, generally described as a single shock, lasted from five to seven minutes. About two hours after, fires broke out in three different parts of the city ; and this new calamity prevented the digging out of the immense riches concealed beneath the ruins. From a perfect calm, a fresh gale immediately after sprang up, and occasioned the fire to rage with such fury, that in the space of three days the city was nearly reduced to ashes. Every element seemed to conspire towards its destruction ; for, soon after the shock, which happened near high water, the tide rose in an instant forty feet, and at the castle of Belem, which defends the entrance of the harbour, fifty feet higher than had ever been known. Had it not subsided as suddenly, the whole city would have been submerged. A large new quay sunk to an unfathomable depth, with several hundreds of persons, not one of the bodies of whom was afterwards found. Before the sea thus came rolling in like a mountain, the bar was seen dry from the shore. The terrors of the surviving inhabitants were great and multiplied. Amid the general confusion, and through a scarcity of hands, the dead bodies could not be buried, and it was dreaded that a pestilence would ensue ; but from this apprehension they were relieved by the fire, in which these bodies were for the greater part consumed. The fears of a famine were more substantial : since, during the three days succeeding the earthquake, an ounce of bread was literally worth a pound of gold. Several of the corn magazines having been, however, fortunately saved from the fire, a scanty supply of bread was afterwards procured. Next came the dread of the pillage and murder of those who had saved any of their effects ; and this happened in several instances, until examples were made of the delinquents.

The great shock was succeeded about noon by another, when the walls of several houses which were still standing

were seen to open, from the top to the bottom, more than a fourth of a yard, and afterwards to close again so exactly as not to leave any signs of injury. Between the first and the eighth of November twenty-two shocks were reckoned. A boat on the river, about a mile distant from Lisbon, was heard by the passengers to make a noise as if it had run aground, although then in deep water : they at the same time saw the houses falling on both sides of the river, in the front of which, on the Lisbon side, the greater part of a convent fell, burying many of its inmates beneath the ruins, while others were precipitated into the river. The water was covered with dust, blown by a strong northerly wind ; and the sun entirely obscured. On landing, they were driven by the overflowing of the waters to the high grounds, whence they perceived the sea, at a mile's distance, rushing in like a torrent, although against wind and tide. The bed of the Tagus was in many places raised to its surface ; while ships were driven from their anchors, and jostled together with such violence, that their crews did not know whether they were afloat or aground. The master of a ship, who had great difficulty in reaching the port of Lisbon, reported that, being fifty leagues at sea, the shock was there so violent as to damage the deck of the vessel. He fancied he had mistaken his reckoning, and struck on a rock.

CLARKE.

THE MOISTURE OF THE AIR, AND THE FALL OF WET.

MOISTURE is, next to heat, a condition the most necessary to the thriving, and even to the life, of plants, and therefore to the fitness of a country for the dwelling of man. Plants are dried up, and their growth stopped, if moisture fails in summer. In many hot regions where water is either quite or nearly wanting, the soil is unfruitful, just as in the high north, and almost devoid of herbage. Such

is the state of the vast tracts known as the Desert of Sahara, and of great part of Arabia and Persia.

Springs and rivers can only supply the water required for the nourishment of plants at particular spots, and that constantly, as a general rule, only near high mountain-chains. Thus Lombardy owes its uncommon fruitfulness chiefly to the industrious care, which the inhabitants have been taking for centuries, to spread the water from the Alps over the whole face of the land. The fertility of the desert-bounded valley of the Nile depends only on the overflowing of the river. And the flourishing appearance of those single spots,—the Oases,—in the midst of the deserts of Africa and Arabia, is due to the springs which gush forth within them.

All these, however, are but single and partial results. The most universal and active source of the water necessary for the growth of plants is the moisture of the air, the water which the air carries with it in greater or less quantity as vapour.

Evaporation.—You know the property which water has of evaporation. Water left to itself in open vessels, and cut off from all supplies from without, lessens gradually in bulk, and at last vanishes altogether; wetted bodies placed in the open air become dry. The moisture that has come in winter and spring always disappears when we have had fine weather for some time in the warm season. The stones wetted by a summer shower, the plants covered with the morning dew, generally become dry soon after the sun has begun to shine. All this water is dissipated into the air; it evaporates, that is, it passes into the state of vapour.

Evaporation does not always take place with the same quickness. You cannot fail to have remarked that it is closely connected with heat and with the draught of air. The property of air, of taking up vapour into the space which it occupies itself—its capacity for vapour—increases

with the temperature; for this reason evaporation is favoured more by warm than by cold air. But in all cases the amount of vapour, which a given bulk of air can take up at a given temperature, is limited. If the limits of this capacity are reached, evaporation ceases, until the air thus charged with moisture is removed, and other drier air takes its place. The free air of the atmosphere is probably never quite dry, but it seldom holds as much moisture as it could take up at the temperature at which it is. For this reason a draught of air favours evaporation, and that the more effectually, the drier and the warmer it is. Moist air cannot aid the formation of vapour, however swiftly it may move. The air is commonly moister and stiller over low lying spots than on heights. You will now quite understand why it is necessary to seek high places, if the object is to obtain the quickest evaporation in the open air.

Charge of Moisture.—Air, which at any time contains as much vapour as at its then present temperature it can take up, is said to be saturated or fully charged with water-vapour. It is said, for instance, to be half charged if it holds fifty per cent, or three-quarters charged if seventy-five per cent, of the greatest amount of moisture that it can take up at its actual temperature. The degree of charge always shows, therefore, not the actual, but only the relative quantity of vapour held in the air. Thus in the cold season of the year, when it contains but a small actual amount of water, the air may be, and in fact generally is, moister, or nearer to its point of full charge, than in summer, when it holds a far greater quantity of vapour. In the latter case, indeed, evaporation may perhaps be still briskly going on, while in the former it will have almost ceased. Thus in the months of November and December the air generally seems to us moister than on a warm day in July, when, however, it will often contain two or three times as much water.

Over the great oceans the air is generally, at all seasons of the year, and in all latitudes, near its full-charge point. Over the land its condition as to moisture depends essentially on that of the ground, on the direction of the wind, and on the distance from the sea.

All bodies, without exception, have the power, some more, some less, of taking from the air some of its moisture. Many substances—for instance, burnt lime,—have this property in so high a degree that they can be made use of to dry the air completely. With the greatest number of bodies, and among these, with plants, the power of sucking up this water adjusts itself to the relative condition as to moisture, or to the degree of water-charge of the air. In very moist air, and this whatever the temperature may be, such substances take up the greatest amount of water that their peculiar property will allow at the given temperature,—they become fully charged with moisture. If the moistness of the air is removed from the point of full charge, the bodies that are in it lose some of the water which they contain; they begin to become dry, and this goes on until the power with which they absorb moisture,—a power which, in all bodies, is the more active the more the store of water which they have condensed from the air is lessened—is balanced by the tendency, of the water which they still retain, to evaporate.

Atmospheric air, which in a warm day seems dry, approaches its point of full charge during the radiation of the night. Thus it is that plants, without any fall of wet taking place, but only by virtue of the peculiar power with which nature has endowed them, take up again in the night a part of the moisture which they have lost during the day. In the neighbourhood of great masses of water, on the banks of rivers, on the coasts of seas, where a brisk evaporation is always going on, the herbage, even when there is no rain, cannot become wholly dried up, while in inland districts, the want of rain is very quickly felt on

account of the increasing dryness of the air which surrounds the plants.

The Dew-point.—If the air is by any cause cooled down below that temperature, at which the moisture, which it holds, will be its full charge, a part of its vapour will be withdrawn from it in the form of liquid water. Thus we see that cold bodies placed in the open air very often become studded with drops of water—*Dew-drops*—because they cool down the surrounding air to a temperature below its point of full charge, which is called the *Dew-point*. For the same reason, when it is cold out of doors, the windows of rooms which are dwelt in, and which are therefore usually filled with moist air, become wet. On cold winter days the moisture thus set down from the air hardens into ice. We then say the windows are frozen. It is clear that the windows in chambers into which the outer air can always enter freely, or whose atmosphere contains no more vapour than does the outer air, cannot become frozen.

In enclosed buildings, in which much water is evaporated, or which, being continually dwelt in, are guarded from the quick entrance of the air without, even the walls become covered with wet if the cold weather lasts for a long time. You have seen upon such walls the damp which people commonly believe to be a sweat oozing from them. In fact, however, it no more comes out of the walls than that which settles on the window panes, comes out of the glass. In both cases, indeed, the same cause is at work. You will find that such parts of walls are especially liable to damp as are least open to the warmth of the room; for instance, those near the floor in the corners, behind the furniture, &c.; and such walls as are most quickly cooled by outward influences; such, therefore, as have but little thickness, and are built of materials that are good conductors of heat, especially when they are outside walls and exposed to the north. There is no more sure remedy for damp on walls, and for the mouldiness to

which it so often gives rise, than a frequent change of the air, which should, if possible, be warm, as it will then be drier.

When in winter the ground is cooled down below 32° F., water poured upon it freezes. So if a sudden south wind brings, at such time, a fall of rain, it freezes on the surface, forming a thin film or varnish of very slippery ice. But even when it does not rain, the cold ground withdraws from the warm moist air of the south a part of its charge of vapour, and covers itself with a similar thin film of ice. This ice is even formed on the floors of houses, if the cold has already found its way into them. You see that the origin of this surface ice is the same as that of the frost on the windows.

Formation of Dew.—When the nights are cool, but not cold enough to freeze, most bodies in the open air, plants especially, become covered with those drops of water which we call *Dew*. It was formerly believed that dew came out of the earth.

It has, however, been proved most clearly that dew is set down from the air. The temperature of many, perhaps all bodies, placed in the open air after sunset, soon falls below that of the air, and, under favourable circumstances, even below the dew-point. Now from this moment they behave like any cold body plunged in moist air; they become studded with drops of water. The degree, to which this cooling is carried, depends upon the power which the substances have of radiating heat. These bodies, therefore, which are the best radiators, such as plants, leaves of trees, and especially grass, are the first to become covered with dew; after them come stones, the soil, and, last of all, metals, which we often see free from dew, when the leaves are already covered with large drops. Dew is formed most readily and plentifully in cloudless, starry nights, because under these conditions the cooling and radiation go on more quickly than when the sky is clouded. You

must long ago have remarked that the brightest nights are proportionally the coolest ; and that when the sky is clear the contrast between the temperature of day and night is greatest. Even our hair and woollen garments are liable to become bedewed under the sky of a cloudless night ; but a simple roof of leaves, or an open tent, very effectually checks radiation, and so lessens both the cooling and the fall of dew. For the same reason that side of leaves which is turned towards the open sky is always first and most plentifully wetted with dew.

Gentle movements of the air are favourable to the settlement of dew, because they remove the cold layers of air, which have been already robbed of their moisture, and replace them by fresh supplies warmer and richer in water. But during strong winds the formation of dew is interrupted, since the quick exchange of the cooled for the warmer air brings more warmth to the bodies that are chilled by radiation, and thus checks or prevents the fall of the temperature below the dew-point.

Under the clear skies of the Tropics, the fall of dew is often so plentiful that its effect is almost like that of a smart shower of rain.

Mists.—The settlements of moisture from the air, of which I have been treating, are brought on only by means, and on the surface, of solid bodies which are surrounded by the air. If a large mass of the air is cooled down throughout, below the dew-point, the water that is withdrawn from it does not generally run together into drops, but forms little bubbles (vapour-vesicles or cloud-bubbles), which float in the air like those of soap-water, containing, within their thin bulbs, air fully charged with moisture. Such is the so-called visible steam or vapour, which rises from hot water, or which is formed in the air we breathe out from our lungs, when the weather is cold and moist. When the weather is warm and the air dry, the breath forms no clouds before the mouth, because the

mixture of the moist outbreathed air with that of the dry atmosphere, is not cooled down below its dew-point. And if any visible mist should be formed under such conditions, it immediately vanishes again; that is, it returns to the proper state of true vapour as soon as it is mixed with the quantity of air that has enough capacity for vapour to take it back to the state of gas.

The vapours that float over rivers in cool evenings are due to the same cause. It has always been found, that when these occur the temperature of the water is higher than that of the air that lies over it. By the same cause we account for the morning mists which float over moist ground, over meadows and wooded mountain slopes. When seen from a distance, such masses of cloud seem to be at rest. However, the process that is actually going on is exactly the same as that which attends the evaporation of water from any vessel. The vapours as they rise are first partly condensed into mist, and are then dissolved again on mixture with a farther quantity of air. In dry warm air the vapours do not become visible at all, although the evaporating process is going on more quickly than ever. If, however, the air is already moist, the mist is formed in dense masses, and spreads to a considerable distance. When, therefore, we see mists hanging over the tops of hills, and continually increasing in bulk, we conclude that we shall soon have rainy weather.

BUFF.

THE CLOUD.

“ I BRING fresh showers for the thirsting flowers,
From the seas and the streams ;
I bear light shades for the leaves when laid
In their noon-day dreams ;

L

From my wings are shaken the dews that waken
The sweet birds every one,
When rocked to rest on their mother's breast,
As she dances about the sun.
I wield the flail of the lashing hail,
And whiten the green plains under ;
And then again I dissolve it in rain,
And laugh as I pass in thunder.

I sift the snow on the mountains below,
And their great pines groan aghast ;
And all the night 'tis my pillow white,
While I sleep in the arms of the blast.
Sublime on the towers of my skyey bowers,
Lightning, my pilot, sits ;
In a cavern under is fettered the thunder—
It struggles and howls by fits ;
Over earth and ocean, with gentle motion,
This pilot is guiding me,
Lured by the love of the genii that move
In the depths of the purple sea ;
Over the rills, and the crags, and the hills,
Over the lakes and the plains,
Wherever he dream, under mountain or stream,
The spirit he loves remains ;
And I, all the while, bask in heaven's blue smile,
Whilst he is dissolving in rains.

The sanguine sunrise, with his meteor eyes,
And his burning plumes outspread,
Leaps on the back of my sailing rack,
When the morning-star shines dead ;
As on the jag of a mountain crag,
Which an earthquake rocks and swings,
An eagle, alit, one moment may sit,
In the light of its golden wings.

And when sunset may breathe, from the lit sea beneath,
 Its ardours of rest and love,
And the crimson pall of eve may fall
 From the depth of heaven above,
With wings folded I rest, on mine airy nest,
 As still as a brooding dove.

That orbèd maiden, with white fire laden,
 Whom mortals call the moon,
Glides glimmering o'er my fleece-like floor,
 By the midnight breezes strewn ;
And wherever the beat of her unseen feet,
 Which only the angels hear,
May have broken the woof of my tent's thin roof,
 The stars peep behind her and peer !
And I laugh to see them whirl and flee,
 Like a swarm of golden bees,
When I widen the rent in my wind-built tent,
 Till the calm rivers, lakes, and seas,
Like strips of the sky fallen through me on high,
 Are each paved with the moon and these.

I bind the sun's throne with a burning zone,
 And the moon's with a girdle of pearl ;
The volcanoes are dim, and the stars reel and swim,
 When the whirlwind my banners unfurl.
From cape to cape, with a bridge-like shape,
 Over a torrent sea,
Sunbeam proof, I hang like a roof,
 The mountains its columns be.
The triumphal arch through which I march
 With hurricane, fire, and snow,
When the powers of the air are chained to my chair,
 Is the million-coloured bow ;
The sphere-fire above its soft colours wove,
 While the moist earth was laughing below.

I am the daughter of earth and water,
 And the nursling of the sky ;
 I pass through the pores of the ocean and shores ;
 I change, but I cannot die :
 For, after the rain, when, with never a stain,
 The pavilion of heaven is bare,
 And the winds and sunbeams, with their convex gleams,
 Build up the blue dome of air,
 I silently laugh at my own cenotaph,
 And out of the caverns of rain,
 Like a child from the womb, like a ghost from the tomb,
 I arise and unbuild it again." SHELLEY.

THE PARDON OF SIN OBTAINED THROUGH FAITH.

THE pardon of sin offered in the gospel is a pardon held out to all who may choose to embrace and to rely upon it—flung diffusively abroad, as it were, over the face of the whole earth ; and there is not one individual of our guilty species, who is not welcome to place his steadfast and sure dependence thereupon. Let but this offer of kindness from God simply meet with the homage of confidence from man ; and then there is opened up a channel of communication through which there is nothing that shall intercept the flow of heaven's mercy—even upon those who in times past have most daringly trampled on heaven's law, and done most grievous offence to heaven's sacredness. It is the sure though the simple ligament by which man is again united with the God from whom he had separated so widely. That ligament is Faith. God puts forth His offer of reconciliation, and man accepts of the offer, simply by the reliance which he puts upon its honesty. It is then that the reconciliation is entered upon. It is then that an act of agreement is struck be-

tween the parties, who are now the parties of a covenant where a faith on the one side that never falters, is sure to meet with a faithfulness on the other side that never fails.

CHALMERS.

THE OFFICE OF THE HOLY SPIRIT.

THE office of the Holy Spirit, as defined by the Bible itself, is not to make known to us any truths which are not contained in the Bible ; but to make clear to our understandings the truths which are contained in it. He opens our understandings to understand the Scriptures. The Word of God is called the sword of the Spirit. It is the instrument by which the Spirit worketh. He does not tell us anything that is out of the record ; but all that is within it He sends home, with clearness and effect, upon the mind. He does not make us wise above that which is written ; but He makes us wise up to that which is written. When a telescope is directed to some distant landscape, it enables us to see what we could not otherwise have seen ; but it does not enable us to see anything which has not a real existence in the prospect before us. It does not present to the eye any delusive imagery, neither is that a fanciful and fictitious scene which it throws open to our contemplation. The natural eye saw nothing but blue land stretching along the distant horizon. By the aid of the glass, there bursts upon it a charming variety of fields, and woods, and spires, and villages. Yet who would say that the glass added one feature to this assemblage ? It discovers nothing to us which is not there ; nor, out of that portion of the book of nature which we are employed in contemplating, does it bring into view a single character which is not really and previously inscribed upon it. And so of the Spirit. He does

not add a single truth, or a single character, to the book of Revelation. He enables the spiritual man to see what the natural man cannot see ; but the spectacle which he lays open is uniform and immutable. It is the Word of God, which is ever the same ; and he whom the Spirit of God has enabled to look to the Bible with a clear and affecting discernment, sees no phantom passing before him ; but, amid all the visionary extravagance with which he is charged, can, for every one article of his faith, and every one duty of his practice, make his triumphant appeal to the law and to the testimony. CHALMERS.

PLANTS.

THE wonderful fertility of plants in the immense number of seeds which they produce, and the plans by which they are scattered, affords a remarkable instance of goodness and skill. Sharon Turner states that "a common scarlet bean yielded a hundred pods, with five full formed beans in each ; making in such stalks, from three to five hundred from the single bean sown." What is the end of all these numerous seeds ? Why this profusion ? Is it that five hundred plants may be produced by each one, and so the earth be over-run with a luxuriant vegetation, that man may find no room for himself and his home ? No. The great Creator has provided the seeds, not only for the reproduction of the plant, but for the food of man and animals, and for the birds ; yea, even for the meanest. "He giveth to the beast his food, and to the young ravens which cry." He, in preparing for their wants, knew how many of his creatures should live upon seeds : how the corn should be even the very staff of life ; how the apple, and the cherry, and a thousand other fruits, in which the seeds lie embedded, should refresh his frame, and gratify his appetite : how

the silky thistle-down and the black ivy-berry, should give food for the birds, and how "the cattle upon a thousand hills" should be nourished by the grass of his fields. He knew that the rains would destroy many seeds; that many would be blown by the winds on unkindly soils; that myriads would lose their germinating powers, by falling on the waters; and he has thus enriched the plant, that after all that are eaten and that are wasted, there may yet be enough left to sow the earth with fruits to feed us, and flowers to delight us. How many, as the seeds of the pea, or bean, are inclosed in pods as impervious to rain, as if they were little bags of canvas; yet drying up as the seeds ripen, and, just at the time when they are fit for sowing, rolling round like a crumpled parchment, and letting their seeds fall out upon the land. See the hard shell of the cocoa-nut—so hard that, when we wish for the fruit within, we must employ the sharpest and firmest instrument to obtain it; yet it lies in the ground, and, after a while, the shell opens, and a tender green sprout rises into the air, and grows into a goodly tree; giving its shadow to the land, and the music of its waving leaves to the ocean. And why has the cocoa its hard shell, but that, growing as it does near the sea, it may be fitted to swim away to a distant continent; or to the island of the ocean, or the coral reef, which as yet is unclothed with vegetation; but, in the progress of years, is to present a green spot in the waste of waters, where the birds of song shall find shelter, and man shall come to eat the fruits of the land? So light is the down that fills the thistle-tuft, that the very faintest summer breeze raises its millions of feathers into the air; and let a stronger blast arise, and away the numerous seeds of the ash are scattered far and near. Under the bough of the horse-chestnut tree, lies the nut wrapped in its green and prickly covering, till sun and rain have decayed its outer coat, and left it free to find its place in the soil; and the autumnal damps rot the hard woody cones of the fir-

apple, and the seed, so carefully guarded till it is matured, finds its way into the land, and the dark forest of the north rises and thickens with its thousands of trees. Innumerable are the means which the great Creator employs in spreading fertility; from the gentle summer wind which ripples the waters, to the storm which lashes the waves into fury; from the humble and unintentional ministry of the fowl of the air, to the thoughtful plan and the unwearied pursuit of it, which characterizes the works of His great masterpiece—man.

There are few who are disposed to resist these evidences of a Supreme Being, or to deny his power and beneficence as shown in creation. Though on looking around we see so much practical infidelity; though many are living and dying, and God is not in all their thoughts; yet most would acknowledge the fact of his existence, and welcome the proofs of his omnipotence. Far more general is the notion, that we can learn so much of God in his works, as that we need not study his Holy Word. We may listen to the sweeping winds with solemn awe, and a rapt and subdued feeling may take possession of our souls, and we may fancy it is devotion; yet not one holy or spiritual emotion may be called into action, which shall enable us to go forth resisting the temptations of sin, or which shall really constitute communion with God. We may look on the broad landscape, smiling in summer beauty, and speak with delight of the "temple of nature," and say with the poet

"The turf shall be my fragrant shrine,"

and follow with reverence the man of science, as he displays God's wisdom in the creation of the universe; and yet there may be no sense of God's holiness—no true penitence for sin—and no pleading of that atoning blood—without which, prayer cannot be acceptable to the majesty of God.

But though the knowledge of eternal life is not to be

gathered from nature, yet we may not only trace God's love in the "flower of the field," but we may be reminded, by rural sights and scenes, of many portions of Scripture truth. Our Saviour himself bade us look upon this material world for this object. "And thus," says that pious old writer, George Herbert, "our Saviour made trees and plants to teach the people: for he was the true householder, who bringeth out of his treasury things new and old: the old things of philosophy, and the new of grace, and maketh one to serve the other. And I conceive," says he, "that our Saviour did this, that, by familiar things, he might make his doctrine slip more easily into the hearts even of the meanest; and that labouring people, whom he chiefly considered, might have everywhere monuments of his doctrine; remembering in gardens, his mustard-seed and lilies; in the fields, his seed-corn and tares; and so not to be drowned altogether in the works of their vocation, but sometimes lift up the mind to better things in the midst of their pains."

Wild Flowers of the Year.

CORAL STRUCTURES.

NATURAL history affords not a few instructive examples of

"What great effects from little causes flow;"

and these are well worthy of our study, as presenting to us one peculiar aspect of the wisdom of God, with whom nothing is great, nothing small. Some of the mightiest operations in nature are the results of processes, and the works of agents, apparently feeble and wholly inadequate to produce them; and our wonder is excited when we are able intelligently to trace them to their causes.

How many a poetic dream is associated with the sunny isles of the Pacific! What a halo of romance encircles all

our ideas of those mirror-like lagoons in the midst of the great ocean-waves, those long, low reefs just emerging from the sea, on which the cocoa-nut palm is springing from the very water's edge!

Beautiful they are in our imagination, as we have realized the pictures drawn by Cook and other voyagers. And when we know that these thousand isles, these endless reefs, these huge barriers that curb the furious ocean, are produced by tiny, soft-bodied sea-anemones, by atoms of pulp, sluggish and seemingly helpless morsels of animated jelly, individually no bigger than the smallest flower that nestles in the hedge-bank—our wonder is deepened and incomparably augmented by it. "We feel surprise when travellers tell us of the vast dimensions of the Pyramids, but how utterly insignificant are the greatest of these when compared to these mountains of stone accumulated by the agency of various minute and tender animals! This is a wonder which does not at first strike the eye of the body, but, after reflection, the eye of reason."

In coasting along a tropical reef, the extreme clearness of the water permits the coral shrubs and groves to be distinctly seen, which rise from the blue transparent depths. They take various forms—some massive, with meandering channels over the rounded surface; some forming honey-combed blocks formed by the union of thin plates at various angles; many growing like trees or shrubs with leafless branches, more or less ramified, and with the twigs more or less slender and pointed, or thick and rounded. Under water, the whole surface is covered with a layer of jelly-like flesh, of many brilliant colours, formed by the crowding together of the myriad tiny polypes, which protrude their slender tentacles and expanding disks from the individual cells. Even when severed, the branches are exquisitely beautiful so long as they retain the faint purple halo that plays around their ivory tips, but which soon

vanishes. A rude touch beneath the water will cause the lovely tints—brilliant crimson, orange, and emerald green—to disappear, by the withdrawal of the alarmed polypes; but they soon protrude again, and expand in their original loveliness.

The interest with which these gardens are contemplated is enhanced by the multitude of strange creatures which crawl over and through the shrubs. Fishes of the most gorgeous hues, elegant shells, with clouded and spotted animals carrying them, nimble prawns of crimson and yellow, long gliding green worms, and purple sea-urchins, with enormous spines, here find their home and live at ease beneath the unclouded sun.

“Sometimes the barrier reef recedes from the shore, and forms wide channels or inland seas, where ships find ample room and depth of water, exposed, however, to the danger of hidden reefs. The reef on the north-east coast of New Holland and New Caledonia extends four hundred miles, at a distance varying from thirty to sixty miles from shore, and having as many fathoms of depth in the channel.

“A barrier reef, inclosing a lagoon, is the general formation of the coral islands, though there are some of small size in which the lagoon is wanting. These are found in all stages of development: in some the reef is narrow and broken, forming a succession of narrow islets with openings into the lagoon; in others there only remains a depression of surface in the centre to indicate where the lagoon originally was. The most beautiful are those where the lagoon is completely inclosed, and rests within, a quiet lake. Maraki, one of the Kingsmill group, is one of the prettiest coral islands of the Pacific. The line of vegetation is unbroken, and, seen from the mast-head, it lies like a garland thrown upon the waters.

“When first seen from the deck of a vessel, only a series of dark points is descried, just above the horizon. Shortly

after, the points enlarge into the plumed tops of cocoa-nut trees, and a line of green, interrupted at intervals, is traced along the water's surface. Approaching still nearer, the lake and its belt of verdure are spread out before the eye, and a scene of more interest can scarcely be imagined. The surf, beating loud and heavy along the margin of the reef, presents a strange contrast to the prospect beyond—the white coral beach, the massy foliage of the grove, and the embosomed lake, with its tiny islets. The colour of the lagoon water is often as blue as the ocean, although but fifteen or twenty fathoms deep ; yet shades of green and yellow are intermingled, where patches of sand or coral knolls are near the surface, and the green is a delicate apple shade, quite unlike the usual muddy tint of shallow waters.

“These garlands of verdure seem to stand on the brims of cups, whose bases root in unfathomable depth. Seven miles east of Clermont Tonnerre, the lead ran out to eleven hundred and forty-five fathoms, (six thousand eight hundred and seventy feet) without reaching bottom. Within three-quarters of a mile of the southern point of this island, the lead had another throw, and, after running out for a while, brought up for an instant at three hundred and fifty fathoms, and then dropped off again and descended to six hundred fathoms without reaching bottom. The lagoons are generally shallow, though in the larger islands soundings gave twenty to thirty-five, and even fifty and sixty fathoms.”

GOSSE.

WHAT A CHANGE !

WHAT was the condition of our country in the time of the Romans? Look back and consider ;—see its ancient tribes, brave indeed, but savage—fishing in its waters, or hunting upon its mountains—their bodies painted in all

the fantastic colours of barbarism—their minds still more disfigured with the stains of cruelty, impurity, and falsehood—the slaves of druidical idolatry—bending the knee to some demon—holding their wives as the slaves of their caprice and tyranny—and sacrificing the children whom God had given them, at the shrine of the devil!—What is our country now? Its inhabitants are settled into civilized and domestic life—the sciences cultivated—the arts advancing—industry, notwithstanding occasional stagnation, all astir—the fields waving with heavy corn—the most ingenious manufactures produced—the human intellect acknowledging but one God, all-gracious and mighty—tyranny over the female sex abolished—and the cruel immolation of children altogether unknown!

How has this wonderful change been produced? By the revelation of Jesus Christ. Human society will no doubt of itself make some progress towards civilization; but civilization without Christianity is barbarism. Is China civilized, with her infants exposed to the dogs or to the vultures? Is Hindostan civilized, with her widows self-immolated with the bodies of their deceased husbands, or her aged inhabitants exposed alive by their own children on the banks of the Ganges? Are Mohammedan countries civilized, with their females kept in almost constant confinement, and made the subjects of the most intolerable oppression? In none of the countries where a false religion prevails can you ever find the human mind in that healthful condition which is necessary to the performance of any thing that is truly great or noble. Even the much-extolled nations of antiquity, although they exhibited the grandeur of intellect, did not exhibit the grandeur of morals; and it is the union of the two which alone can elevate man to that dignified station which his nature was intended to occupy. It is the gospel of Jesus Christ which has softened the human heart, saving infants, and widows, and parents from premature death, and the

female sex from bondage. It is the gospel, which, emancipating man from the slavery of false religion, and thus communicating a right direction to his moral and intellectual energies, has become the parent of ingenuity, industry, learning, and happiness. Search the annals of the nations of antiquity, or of any country to which the gospel is a stranger,—where, amongst them, do you find any provision for the poor, any asylum for the destitute, any lazaret-house for the sick, any refuge for the penitent profligate? But see these monuments of the spirit of the Christian religion scattered *throughout* our land—these trophies of her victory over the selfishness, or thoughtlessness, or cruelty of human nature! Were an ancient Greek or Roman, wrapping himself up in his scattered ashes, to rise from the dead, and to demand a proof of the blessings shed on Britain by the gospel, I would point to our hospitals, to our infirmaries, to our penitentiaries; I would lead him to inspect our societies for clothing the naked, for visiting the destitute, for relieving the poor; and I would ask him, without fear of an answer in the affirmative, if such things were known in the cities of antiquity—in republican Athens, in imperial Rome?

The mountains of our country show their features as rough as they did two thousand years ago—its torrents foam down their rocky beds with the same violence as ever—the ocean around us, hoary with storms, precipitates itself upon our shores with equal violence as in the days of Druidism. But how changed are the inhabitants of that country! Barbarism and cruelty have, like the snow before the sun, disappeared before the beams of Christianity; the moral world has assumed a mild and genial aspect, the effluence of Christian virtue has burst out upon it; and the ancient song has been verified,—“The winter is past, the rain is over and gone, the flowers appear on the earth, the time of the singing of birds is come, and the voice of the turtle is heard in our land.”

Leisure Hours.

Nor yet enslaved, not wholly vile,
O Albion ! O my mother isle !
Thy valleys, fair as Eden's bowers,
Glitter green with sunny showers ;
Thy grassy uplands' gentle swells
 Echo to the bleat of flocks—
Those grassy hills, those glittering dells
 Proudly ramparted with rocks—
And Ocean, 'mid his uproar wild,
Speaks safely to his island-child !
 Hence, for many a fearless age
Has social Quiet loved thy shore !
 Nor ever proud invader's rage
Or sack'd thy towers, or stained thy fields with gore.

COLERIDGE.

LAND of my fathers, though no mangrove here
O'er thy blue streams her flexile branches rear,
Nor scaly palm her fingered scions shoot,
Nor luscious guava wave her yellow fruit,
Nor golden apples glimmer from the tree ;
Land of dark heaths and mountains, thou art free !
Free as his lord the peasant treads the plain,
And heaps his harvest on the groaning wain ;
Proud of his laws, tenacious of his right,
And vain of Scotia's old unconquered might.
Dear native valleys ! long may ye retain
The chartered freedom of the mountain swain !
Long 'mid your sounding glades, in union sweet,
May rural innocence and beauty meet ;
And still be duly heard, at twilight calm,
From every cot the peasant's chanted psalm !

LEYDEN.

THE SEA SHORE.

I LOVED to walk where none had walked before,
About the rocks that ran along the shore ;
Or far beyond the sight of men to stray,
And take my pleasure when I lost my way.
For then 'twas mine to trace the hilly heath,
And all the mossy moor that lies beneath.
Here had I favourite stations where I stood,
And heard the murmurs of the ocean-flood,
With not a sound beside, except when flew
Aloft the lapwing, or the grey curlew,
Who with wild notes my fancied power defied,
And mocked the dreams of solitary pride.
I loved to stop at every creek and bay
Made by the river in its winding way,
And call to memory—not by marks they bear,
But by the thoughts that were created there.
Pleasant it was to see the sea-gulls strive
Against the storm, or in the ocean dive,
With eager scream ; or when they dropping gave
Their closing wings to sail upon the wave :
Then as the winds and waters raged around,
And breaking billows mixed their deafening sound ;
They on the rolling deep securely hung,
And calmly rode the restless waves among.
Nor pleased it less around me to behold,
Far up the beach, the yeasty sea-foam rolled ;
Or from the shore upborne, to see on high
Its frothy flakes in wild confusion fly :
While the salt spray that clashing billows form,
Gave to the taste a feeling of the storm.

CRABBE.

CHANGE OF THE MONSOON.

THE month of May is signalized in Ceylon by the great event of the change of the monsoon, and all the grand phenomena which accompany its approach. Long before the wished-for period arrives, the verdure produced by the previous rains becomes almost obliterated by the burning droughts of March and April. The deciduous trees shed their foliage, the plants cease to put forth fresh leaves, and all vegetable life languishes under the unwholesome heat. The grass withers on the baked and cloven earth, and red dust settles on the branches and thirsty brushwood. The insects, deprived of their accustomed food, disappear underground or hide beneath the decaying bark; butterflies are no longer seen hovering over the flowers, the birds appear fewer and less joyous, and the wild animals and crocodiles, driven by the drought from their accustomed retreats, wander through the jungle, and even venture to approach the village wells in search of water. Man equally languishes under the general exhaustion, ordinary exertion becomes distasteful, and the native Singhalese, although inured to the climate, move with lassitude and reluctance.

Meanwhile the air becomes loaded to saturation with aqueous vapour drawn up by the augmented force of evaporation acting vigorously over land and sea: the sky, instead of its brilliant blue, assumes the sullen tint of lead, and not a breath disturbs the motionless rest of the clouds that hang on the lower range of hills. At length, generally about the middle of the month, but frequently earlier, the sultry suspense is broken by the arrival of the wished-for change. The sun has by this time nearly attained his greatest northern declination, and created a torrid heat throughout the lands of southern Asia and the peninsula of India. The air, lightened by its high temperature and such watery vapour as it may contain, rises into loftier regions and is

replaced by indraughts from the neighbouring sea, and thus a tendency is gradually given to the formation of a current, bringing up from the south the warm humid air of the equator. The wind, therefore, which reaches Ceylon comes laden with moisture, taken up in its passage across the great Indian Ocean. As the monsoon draws near, the days become more overcast and hot, banks of clouds rise over the ocean to the west, and in the peculiar twilight the eye is attracted by the unusual whiteness of the sea-birds that sweep along the strand to seize the objects flung on shore by the rising surf.

At last the sudden lightnings flash among the hills and sheet through the clouds that overhang the sea, and with a crash of thunder the monsoon bursts over the thirsty land, not in showers or partial torrents, but in a wide deluge, that in the course of a few hours overtops the river banks and spreads in inundations over every level plain.

All the phenomena of this explosion are stupendous: thunder, as we are accustomed to be awed by it in Europe, affords but the faintest idea of its overpowering grandeur in Ceylon, and its sublimity is infinitely increased as it is faintly heard from the shore, resounding through night and darkness over the gloomy sea. The lightning, when it touches the earth, where it is covered with the descending torrent, flashes into it and disappears instantaneously; but when it strikes a drier surface, in seeking better conductors, it often opens a hollow like that formed by the explosion of a shell, and frequently leaves behind it traces of vitrification. In Ceylon, however, occurrences of this kind are rare, and accidents are seldom recorded from lightning, probably owing to the profusion of trees, and especially of cocoa-nut palms, which, when drenched with rain, intercept the discharge, and conduct the electric matter to the earth. The rain at these periods excites the astonishment of a European; it descends in almost continuous streams, so close and so dense that the level ground,

unable to absorb it sufficiently fast, is covered with one uniform sheet of water, and down the sides of acclivities it rushes in a volume that wears channels in the surface. For hours together the noise of the torrent, as it beats upon the trees and bursts upon the roofs, flowing thence in rivulets along the ground, occasions an uproar that drowns the ordinary voice and renders sleep impossible.

This violence, however, seldom lasts more than an hour or two, and gradually abates after intermittent paroxysms, and a serenely clear sky supervenes. For some days, heavy showers continue to fall at intervals in the forenoon; and the evenings which follow are embellished by sunsets of the most gorgeous splendour, lighting the fragments of clouds that survive the recent storm. TENNANT.

SPRING.

It was a sweet carol, which the Rhodian children sang of old in Spring, bearing in their hands, from door to door, a swallow, as herald of the season :—

“ The Swallow is come!
The Swallow is come!
O, fair are the seasons, and light
Are the days that she brings,
With her dusky wings,
And her bosom snowy white!”

But what child has a heart to sing in this capricious clime of ours, where Spring comes sailing in from the sea, with wet and heavy cloud-sails, and the misty pennon of the east wind nailed to the mast? Yet even here, and in the stormy month of March even, there are bright, warm mornings, when we open our windows to inhale the balmy air. The pigeons fly to and fro, and we hear the whirring sound of wings. Old flies crawl out of the cracks to sun themselves, and think it is summer. They die in their

conceit; and so do our hearts within us, when the cold sea breath comes from the eastern sea, and again

"The driving hail
Upon the window beats with icy flail."

The red-flowering maple is first in blossom, its beautiful purple flowers unfolding a fortnight before the leaves. The moose-wood follows, with rose-coloured buds and leaves; and the dog-wood, robed in the white of its own pure blossoms. Then comes the sudden rain-storm; and the birds fly to and fro, and shriek. Where do they hide themselves in such storms? at what firesides dry their feathery cloaks? At the fireside of the great, hospitable sun; to-morrow, not before; they must sit in wet garments until then.

In all climates Spring is beautiful. In the south it is intoxicating, and sets a poet beside himself. The birds begin to sing; they utter a few rapturous notes, and then wait for an answer in the silent woods. Those green-coated musicians, the frogs, make holiday in the neighbouring marshes. They, too, belong to the orchestra of Nature; whose vast theatre is again opened, though the doors have been so long bolted with icicles, and the scenery hung with snow and frost-like cobwebs. This is the prelude which announces the opening of the scene. Already the grass shoots forth. The waters leap with thrilling pulse through the veins of the earth; the sap through the veins of the plants and trees; and the blood through the veins of man. What a thrill of delight in Spring time! What a joy in being and moving! Men are at work in gardens; and in the air there is the odour of the fresh earth. The leaf-buds begin to swell and blush. The white blossoms of the cherry hang upon the boughs like snow-flakes; and, ere long, our next-door neighbours will be completely hidden from us by the dense green foliage.

And at night so cloudless and so still! Not a voice of living thing—not a whisper of leaf or waving bough—not

a breath of wind—not a sound upon the earth nor in the air! And overhead bends the blue sky, dewy and soft, and radiant with innumerable stars, like the inverted bell of some blue flower, sprinkled with golden dust, and breathing fragrance. Or if the heavens are overcast, it is no wild storm of wind and rain; but clouds that melt and fall in showers. One does not wish to sleep; but lies awake to hear the pleasant sound of the dropping rain.

LONGFELLOW.

HERE, where the tall plantation firs
Slope to the river, down the hill,
Strange impulses—like vernal stirs—
Have made me wander at their will.

I see, with half-attentive eyes,
The buds and flowers that mark the Spring,
And Nature's myriad prophecies
Of what the Summer suns will bring.

For every sense I find delight—
The new-wed cushat's murmurous tones,
Young blossoms bursting into light,
And the rich odour of the cones.

The larch, with tassels purple-pink,
Whispers like distant falling brooks;
And sun-forgotten dewdrops wink
Amid the grass, in shady nooks.

The breeze, that hangs round every bush,
Steals sweetness from the tender shoots,
With, here and there, a perfumed gush
From violets among the roots.

See—where behind the ivied rock
Grow drifts of white anemones,
As if the Spring—in Winter's mock—
Were mimicking his snows with these.

The single bloom yon furzes bear
Gleams like the fiery planet Mars:—
The creamy primroses appear
In galaxies of vernal stars;—

And, grouped in Pleiad clusters round,
Lent-lilies blow—some six or seven;—
With blossom-constellations crown'd,
This quiet nook resembles Heaven.

Hood.

LATE in the month a rude East Wind came down,
A roaring wind, which for a time had sway;
But other powers possess'd the night and day,
And soon he found he could not hold his own.
The merry ruddock whistled at his heart,
And strenuous blackbirds pierc'd his flanks with song;
Pert sparrows wrangled o'er his every part,
And through him shot the larks on pinions strong;
Anon, a sunbeam brake across the plain,
And the wild bee went forth on booming wing;
Whereat he feeble wax'd but rose again
With aimless rage, and idle blustering:
The south wind touch'd him with a drift of rain,
And down he sank—a captive to the Spring!

TURNER.

FALLS OF NIAGARA.

THE Table Rock, from which the Falls of Niagara may be contemplated in all their grandeur, lies on an exact level with the edge of the cataract, on the Canada side, and, in-

deed, forms a part of the precipice over which the water gushes. It derives its name from the circumstance of its projecting beyond the cliffs that support it, like the leaf of a table. To gain this position, it is necessary to descend a steep bank, and to follow a path that winds among shrubbery and trees, which entirely conceal from the eye the scene that awaits him who traverses it. When near the termination of this road, a few steps carried me beyond all these obstructions, and a magnificent amphitheatre of cataracts burst upon my view with appalling suddenness and majesty. However, in a moment the scene was concealed from my eyes by a dense cloud of spray, which involved me so completely, that I did not dare to extricate myself. A mingled rushing and thundering filled my ears. I could see nothing except when the wind made a chasm in the spray, and then tremendous cataracts seemed to encompass me on every side, while below, a raging and foamy gulf of undiscoverable extent lashed the rocks with its hissing waves, and swallowed, under a horrible obscurity, the smoking floods that were precipitated into its bosom. At first, the sky was obscured by clouds, but after a few minutes the sun burst forth, and the breeze subsiding at the same time, permitted the spray to ascend perpendicularly. A host of pyramidal clouds rose majestically, one after another, from the abyss at the bottom of the Fall; and each, when it had ascended a little above the edge of the cataract, displayed a beautiful rainbow, which in a few moments was gradually transferred into the bosom of the cloud that immediately succeeded. The spray of the Great Fall had extended itself through a wide space directly over me, and, receiving the full influence of the sun, exhibited a luminous and magnificent rainbow, which continued to over-arch and irradiate the spot on which I stood, while I enthusiastically contemplated the indescribable scene. The body of water which composes the middle part of the Great Fall is so immense, that it descends nearly two-

thirds of the space without being ruffled or broken, and the solemn calmness with which it rolls over the edge of the precipice, is finely contrasted with the perturbed appearance it assumes after having reached the gulf below. But the water towards each side of the Fall is shattered the moment it drops over the rocks, and loses as it descends, in a great measure, the character of a fluid, being divided into pyramidal-shaped fragments, the bases of which are turned upwards. The surface of the gulf below the cataract presents a very singular aspect ; seeming, as it were, filled with an immense quantity of hoar frost, which is agitated by small and rapid undulations. The particles of water are dazzlingly white, and do not apparently unite together, as might be supposed, but seem to continue for a time in a state of distinct comminution, and to repel each other with a thrilling and shivering motion which cannot easily be described. The road to the bottom of the Fall presents many more difficulties than that which leads to the Table Rock. After leaving the Table Rock, the traveller must proceed down the river nearly half a mile, where he will come to a small chasm in the bank, in which there is a spiral staircase enclosed in a wooden building. By descending this stair, which is seventy or eighty feet, perpendicular height, he will find himself under the precipice on the top of which he formerly walked. A high but sloping bank extends from its base to the edge of the river ; and on the summit of this there is a narrow slippery path, covered with angular fragments of rocks, which leads to the Great Fall. The impending cliffs, hung with a profusion of trees and brushwood, over-arch this road, and seem to vibrate with the thunders of the cataract. In some places they rise abruptly to the height of one hundred feet, and display upon their surfaces, fossil shells, and the organic remains of a former world ; thus sublimely leading the mind to contemplate the convulsions which nature has undergone since the creation. As the

traveller advances, he is frightfully stunned by the appalling noise. Clouds of spray sometimes envelop him, and suddenly check his faltering steps,—rattlesnakes start from the cavities of the rocks, and the screams of eagles soaring among the whirlwinds of eddying vapour, which obscure the gulf of the cataract, at intervals announce that the raging waters have hurled some bewildered animal over the precipice. After scrambling among piles of huge rocks that obstruct his way, the traveller gains the bottom of the Fall, where the soul can be susceptible only of one emotion, viz., that of uncontrollable terror. A little way below the Great Fall, the river is, comparatively speaking, so tranquil, that a ferry-boat plies between the Canada and American shores, for the convenience of travellers. When I first crossed, the heaving flood tossed about the skiff with a violence that seemed very alarming; but as soon as we gained the middle of the river, my attention was altogether engaged by the surpassing grandeur of the scene before me. I was now within the area of a semicircle of cataracts, more than three thousand feet in extent, and floated on the surface of a gulf, raging, fathomless, and interminable. Majestic cliffs, splendid rainbows, lofty trees, and columns of spray, were the gorgeous decorations of this theatre of wonders, while a dazzling sun shed refulgent glories upon every part of the scene. Surrounded with clouds of vapour, and stunned into a state of confusion and terror by the hideous noise, I looked upwards to the height of one hundred and fifty feet, and saw vast floods, dense, awful, and stupendous, vehemently bursting over the precipice, and rolling down, as if the windows of heaven were opened to pour another deluge upon the earth. Loud sounds, resembling discharges of artillery or volcanic explosions, were now distinguishable amidst the watery tumult, and added terrors to the abyss from which they issued. The sun, looking majestically through the ascending spray, was encircled by a radiant halo; whilst fragments of rainbows

floated on every side, and momentarily vanished only to give place to a succession of others more brilliant. Looking backwards, I saw the Niagara river, again become calm and tranquil, rolling magnificently between the towering cliffs that rose on either side, and receiving showers of orient dew-drops from the trees that gracefully overarched its bosom. A gentle breeze ruffled the waters, and beautiful birds fluttered around, as if to welcome its egress from those clouds of spray, accompanied by thunders and rainbows, which were the heralds of its precipitation into the abyss of the cataract.

HOWISON.

DOLPHINS IN PURSUIT OF FLYING-FISH.

SHORTLY after observing a cluster of Flying-fish rise out of the water, we discovered two or three Dolphins ranging past the ship, in all their beauty ; and watched with some anxiety to see one of those aquatic chases, of which our friends the Indiamen had been telling us such wonderful stories. We had not long to wait ; for the ship, in her progress through the water, soon put up another shoal of these little things, which, as the others had done, took their flight directly to windward. A large Dolphin, which had been keeping company with us abreast of the weather gangway, at the depth of two or three fathoms, and, as usual, glistening most beautifully in the sun, no sooner detected our poor dear little friends take wing, than he turned his head towards them, and, darting to the surface, leaped from the water with a velocity little short, as it seemed, of a cannon-ball. But, although the impetus with which he shot himself into the air gave him an initial velocity greatly exceeding that of the Flying-fish, the start which his fated prey had got enabled them to keep ahead of him for a considerable time.

The length of the Dolphin's first spring could not be less than ten yards ; and, after he fell, we could see him gliding like lightning through the water for a moment, when he again rose and shot forwards with considerably greater velocity than at first, and, of course, to a still greater distance. In this manner the merciless pursuer seemed to stride along the sea with fearful rapidity, while his brilliant coat sparkled and flashed in the sun quite splendidly. As he fell headlong on the water at the end of each huge leap, a series of circles were sent far over the still surface, which lay as smooth as a mirror.

The group of wretched Flying-fish, thus hotly pursued, at length dropped into the sea ; but we were rejoiced to observe that they merely touched the top of the swell, and scarcely sunk in it : at least, they instantly set off again in a fresh and even more vigorous flight. It was particularly interesting to observe, that the direction they now took was quite different from the one in which they had set out, implying but too obviously that they had detected their fierce enemy, who was following them with giant steps along the waves, and now gaining rapidly upon them. His terrific pace, indeed, was two or three times as swift as theirs, poor little things !

The greedy Dolphin, however, was fully as quick-sighted as the Flying-fish which were trying to elude him ; for, whenever they varied their flight in the smallest degree, he lost not the tenth part of a second in shaping a new course, so as to cut off the chase ; while they, in a manner really not unlike that of the hare, doubled more than once upon their pursuer. But it was soon too plainly to be seen that the strength and confidence of the Flying-fish were fast ebbing. Their flights became shorter and shorter, and their course more fluttering and uncertain, while the enormous leaps of the Dolphin appeared to grow only more vigorous at each bound. Eventually, indeed, we could see, or fancied we could see, that this skilful sea-sports-

man arranged all his springs with such an assurance of success, that he contrived to fall, at the end of each, just under the very spot on which the exhausted Flying-fish were about to drop! Sometimes this catastrophe took place at too great a distance for us to see from the deck exactly what happened; but on our mounting high into the rigging, we may be said to have been in at the death; for then we could discover that the unfortunate little creatures, one after another, either popped right into the Dolphin's jaws as they lighted on the water, or were snapped up instantly afterwards.

It was impossible not to take an active part with our pretty little friends of the weaker side, and accordingly we very speedily had our revenge. The middies and the sailors, delighted with the chance, rigged out a dozen or twenty lines from the jib-boom end and spritsail-yard-arms with hooks, baited merely with bits of tin, the glitter of which resembles so much that of the body and wings of the Flying-fish, that many a proud Dolphin, making sure of a delicious morsel, leaped in rapture at the deceitful prize."

HALL.

THE INFANT PRINCE.*

A PRINCE born to the throne of Great Britain! The firing of cannon, the ringing of bells, the crackling of fire-works, the blazing of bonfires, holiday dresses and holiday faces everywhere, all testify to the general joy.

We are reminded of a day, that happy fourth of June, the birthday of the good George III., on which, for two whole generations, and a little longer, there used to be such waving of flags and flashing of gunpowder, and, notwith-

* Albert Edward, Prince of Wales, born Nov. 9th, 1841.

standing all our wars abroad, and all our difficulties and troubles at home, so large an amount of hearty national enjoyment. Is the ninth of November to be just such another day to the generations of the future? Shall flags be flaunting gaily in the sun, to welcome the birthday of the reigning monarch,—the child of our Victoria,—at a time when our tombstones shall be casting their shadows across the withered November sward of silent churchyards? and shall bonfires be blazing on the hills, as the stars twinkle out one by one from amid the deepening blue, to look down upon our graves?

The future belongs to One only,—to that Adorable Being who has made His great goodness so manifest to our country for ages and centuries, and rarely more vividly manifest than in the present happy event. He alone sees the end from the beginning, and He more than sees it; for in His unchanging righteousness, and infinite goodness and wisdom, has He ordered and determined it all. *Our* histories relate to but the past; in *His*, the chronicles of all the future are also recorded. We write in *our's*, as their latest event, that there has been born an heir-apparent to the British crown, and our remoter hills still reverberate the echoes which our gratulations have awakened; in *His*, the circumstances of the birth are not more minutely laid down than the details of the funeral. There is a coffin in the distance that lies in the gloomy solitude of a royal vault; and the golden tablet that rests on the lid bears a date and an age well known to Him, for His own finger hath inscribed it. To us, all is dark, but what so natural for creatures whose birthright is hope, whose privilege and whose nature it is to look both before and behind, to dwell upon the past, and anticipate a hereafter! What so natural for them as to let their thoughts out upon the future, and to imagine where they cannot see!

Our children are around us,—the bright eyes and silken locks, and rosy cheeks of infancy. Is there no pleasure in

saying to them, Listen to these sounds,—to that distant peal of the city bells, and that measured sullen boom of the cannon: there has been a king born, who is to be your king, though, we can trust, not ours, for we are old enough to remember the birth of the Queen, his mother. But he is to be your king, and in happier days, we would fain hope, than those of either the present or the past. The world will not be always what it has been. There is a time coming, foretold by the Spirit of God, when wars, and violence, and crime, and misery shall cease,—when men shall live together as brethren,—as the children of one family; and the knowledge of the Lord shall be everywhere. That time cannot now be far distant; and if good and wise men have calculated aright, the dawn may break with no doubtful flush of promise during the reign of the monarch at whose birth three kingdoms are now gladdened; the eastern sky may be reddened by the first glories of that millennial light which shall continue to shine more and more till the perfect day shall have arisen; and even he himself, made wise through the teaching of the Spirit, may be one of those nursing fathers of the Church, whose happy reigns prophets have foretold. Are these but the wild dreams of the enthusiast? We may, indeed, err widely in attempting to fix the *time*, but be it remembered that God Himself has fixed the *events*.

It is well to believe there are better times in store; that the right shall eventually prevail; that Christ reigns; and that the day is assuredly coming, though it must rise on the tombs of the present generation, when His sovereignty shall be universally acknowledged, and the influences of His Spirit everywhere felt.

MILLER.

BRITANNIA.

HAPPY Britannia ! where the Queen of Arts,
Inspiring vigour, Liberty abroad
Walks unconfined, even to thy farthest cots,
And scatters plenty with unsparing hand.

Rich is thy soil, and merciful thy clime ;
Thy streams unfailing in the Summer's drought ;
Unmatch'd thy guardian oaks ; thy valleys float
With golden waves ; and on thy mountains flocks
Bleat numberless ; while, roving round their sides,
Bellow the blackening herds in lusty droves.
Beneath, thy meadows glow, and rise unquell'd
Against the mower's scythe. On every hand
Thy villas shine. Thy country teems with wealth
And property assures it to the swain,
Pleased and unwearied in his guarded toil.

Full are thy cities with the sons of art ;
And trade and joy, in every busy street,
Mingling are heard ; even Drudgery himself,
As at the car he sweats, or dusty hews
The palace-stone, looks gay. Thy crowded ports,
Where rising masts an endless prospect yield,
With labour burn, and echo to the shouts
Of hurried sailor, as he hearty waves
His last adieu, and loosening every sheet,
Resigns the spreading vessel to the wind.

Bold, firm, and graceful, are thy generous youth,
By hardship sinew'd, and by danger fired,
Scattering the nations where they go ; and first
Or on the listed plain, or stormy seas.
Mild are thy glories, too, as o'er the plans
Of thriving peace thy thoughtful sires preside ;
In genius, and substantial learning, high ;
For every virtue, every worth, renown'd ;

Yet, like the mustering thunder when provoked,
The dread of tyrants, and the sole resource
Of those that under grim oppression groan.

Thy Sons of Glory many! Alfred thine ;
In whom the splendour of heroic war,
And more heroic peace, when govern'd well,
Combine ; whose hallow'd name the virtues saint,
And his own Muses love ; the best of kings !
With him thy Edwards and thy Henrys shine,
Names dear to Fame ; the first who deep impress'd
On haughty Gaul the terror of thy arms,
That awes her genius still. In Statesmen thou,
And Patriots, fertile. Thine a steady More,
Who, with a generous though mistaken zeal,
Withstood a brutal tyrant's useful rage,
Like Cato firm, like Aristides just,
Like rigid Cincinnatus nobly poor ;
A dauntless soul erect, who smiled on death.

Frugal, and wise, a Walsingham is thine ;
A Drake, who made thee mistress of the deep,
And bore thy name in thunder round the world.
Then flamed thy spirit high : but who can speak
The numerous worthies of the Maiden Reign ?
In Raleigh mark their every glory mix'd ;
Raleigh, the scourge of Spain ! whose breast with all
The sage, the patriot, and the hero burn'd.
Nor sunk his vigour, when a coward-reign
The warrior fetter'd, and at last resign'd,
To glut the vengeance of a vanquish'd foe.
Then, active still and unrestrain'd, his mind.
Explored the vast extent of ages past,
And with his prison-hours enrich'd the world ;
Yet found no times, in all the long research,
So glorious or so base, as those he proved,
In which he conquer'd, and in which he bled.

Nor can the Muse the gallant Sidney pass,

The plume of war ! with early laurels crown'd,
The Lover's myrtle, and the Poet's bay.
A Hampden too is thine, illustrious land !
Wise, strenuous, firm, of unsubmitting soul,
Who stemm'd the torrent of a downward age
To slavery prone, and bade thee rise again,
In all thy native pomp of freedom bold.
Bright, at his call, thy Age of Men effulged,
Of Men on whom late time a kindling eye
Shall turn, and tyrants tremble while they read.
Bring every sweetest flower, and let me strew
The grave where Russel lies ; whose tempered blood,
With calmest cheerfulness for thee resigned,
Stain'd the sad annals of a giddy reign,
Aiming at lawless power, though meanly sunk
In loose inglorious luxury. With him
His friend, the British Cassius, fearless bled,
Of high determin'd spirit, roughly brave,
By ancient learning to th' enlighten'd love
Of ancient freedom warm'd. Fair thy renown
In awful Sages and in noble Bards ;
Soon as the light of dawning Science spread
Her orient ray, and waked the Muses' song.

Thine is a Bacon ; hapless in his choice,
Unfit to stand the civil storm of state,
And through the smooth barbarity of courts,
With firm but pliant virtue, forward still
To urge his course : him for the studious shade
Kind Nature form'd, deep, comprehensive, clear,
Exact, and elegant ; in one rich soul,
Plato, the Stagyrte, and Tully join'd.
The great deliverer he ! who from the gloom
Of cloister'd monks, and jargon-teaching schools,
Let forth the true Philosophy, there long
Held in the magic chain of words and forms,
And definitions void : he led her forth,

Daughter of Heaven ! that slow-ascending still,
Investigating sure the chain of things,
With radiant finger points to Heaven again.

The generous Ashley thine, the friend of Man,
Who scann'd his Nature with a brother's eye,
His weakness prompt to shade, to raise his aim,
To touch the finer movements of the mind,
And with the moral beauty charm the heart.
Why need I name thy Boyle, whose pious search
Amid the dark recesses of His works,
The great Creator sought ? And why thy Locke,
Who made the whole internal world his own ?
Let Newton, pure Intelligence ! whom God
To mortals lent, to trace his boundless works
From laws sublimely simple, speak thy fame
In all philosophy. For lofty sense,
Creative fancy, and inspection keen
Through the deep windings of the human heart,
Is not wild Shakspeare thine and Nature's boast ?
Is not each great, each amiable Muse
Of classic ages in thy Milton met ?
A genius universal as his theme ;
Astonishing as Chaos ; as the bloom
Of blowing Eden fair ; as Heaven sublime.

Nor shall my verse that elder bard forget,
The gentle Spenser, Fancy's pleasing son ;
Who like a copious river pour'd his song
O'er all the mazes of enchanted ground :
Nor thee his ancient master, laughing sage,
Chaucer, whose native manners-painting verse,
Well-moralized, shines through the Gothic cloud
Of time and language o'er thy genius thrown.

THOMSON.

THE MICROSCOPIC WORLD.

THE improvements effected of late years in the microscope, may well be said to have opened to us a material world of whose existence we should otherwise be wholly ignorant. The number of species of animals and plants now known, whose forms are so minute that they are individually invisible to the naked eye, and only appreciable when collected together in masses, is very great ; and the catalogue is daily enlarging as the waters of the sea, and of lakes and ponds, are more carefully subjected to examination. What to the naked eye seems like a green, or brownish slimy scum, attached to the stalks of water-plants, or floating on the surface of stagnant pools, displays to the microscope a series of elegant and curious forms, endowed with a most perfect symmetry and delicate structure of parts, each acting in the circle of its narrow sphere as perfectly as the more bulky creations above it. The plants included in this microscopic world are classed by botanists under two families, the *Desmidiæ*, which exclusively inhabit fresh water, and the *Diatomaceæ*, a great number of which are marine. The forms of these minute organisms are strange ; they exhibit mathematical figures, circles, triangles, and parallelograms, such as we find in no other plants, and their surface is often most elaborately sculptured. These plants have the power of withdrawing *silex*, or flint-earth, in some manner from the waters of the sea, and fixing it in their tissues, but the exact method in which this is effected has not been ascertained. A remarkable point in their history results from this power of feeding on flint. It is this : their bodies are indestructible. Thus, their constantly-accumulating remains are gradually deposited in strata, under the waters of the sea as well as in lakes and ponds. At first the effect produced by things so small—thousands of which might be contained in a drop, and mil-

lions packed together in a cubic inch, may appear of trifling moment, when speaking of so grand an operation as the deposition of submarine strata. But as each moment has its value in the measurement of time, to whatever extent of ages the succession may be prolonged, so each of these atoms has a definite relation to space, and their constant production and deposition will at length result in mountains. The examination of the most ancient of the stratified rocks, and of all others in the ascending scale, and the investigation of deposits now in course of formation, teach us that from the first dawn of animated nature up to the present hour, this prolific family has never ceased its activity. England may boast that the sun never sets upon her empire, but here is an ocean realm whose subjects are literally more numerous than the sands of the sea. We cannot count them by millions simply, but by hundreds of thousands of millions. Indeed it is futile to speak of numbers in relation to things so uncountable. Extensive rocky strata, chains of hills, beds of marl, almost every description of soil, whether superficial or raised from a great depth, contain the remains of these little plants in greater or less abundance. Some great tracts of country are literally built up of their skeletons. No country is destitute of such monuments, and in some they constitute the leading features in the structure of the soil. The world is a vast catacomb of *Diatomaceæ*; nor is the growth of those old dwellers on our earth diminished in its latter days.

These earliest inhabitants of the world seem destined to outlive beings of larger growth, whose race has a definite limit, both ends of its existence comprised far within the duration of a species of *Diatomaceæ*. Many of the existing species are found in a fossil state, even in early beds. No part of our modern seas is without this ever-springing vegetation. In fact, it is difficult to name a nook on the face of the earth, or in the depths of the sea, where they

are wholly absent, either in a dead or living state ; and their office in the general economy, besides affording food for the humbler members of the animal kingdom, seems to be the preparation of a soil for a higher class of vegetables. This they effect by the minute division of the silicious particles laid up in their tissues, and probably make this nearly insoluble earth more fit for assimilation by other plants. We must also suppose them endowed, like other vegetables, with the power of decomposing carbonic acid and liberating oxygen ; and thus, in their countless myriads, exercising no mean place in the household of Nature. Like their mistress, these, her humblest servants, work in secret. We know not what we owe them. But continued, as their existence is, through all time, and dispersed, as they are, through every part of the world—even where the ice-bound sea is peopled by nothing else—we may rest assured that they do perform some work which renders them worthy the care of a Providence who creates nothing superfluous.

HARVEY.

SUPPING UNDER DIFFICULTIES.

WE soon had our encampment prepared, and the fire blazing ; but hundreds of mosquitos were, as usual, awaiting our arrival, and we found it utterly impossible to sup, so fiercely did they attack us ; so we at last went to leeward of the fire and hastily devoured our meal in the smoke, preferring to risk being suffocated, or smoke-dried, to being eaten up alive ! It was certainly amusing to see us rush into the thick smoke, swallow a few mouthfuls of pemmican, and then rush out again for fresh air, our hands swinging like the sails of a windmill round our heads, while every now and then, as a mosquito fastened on a tender part, we gave ourselves a resounding slap on the

side of the head, which, had it come from the hand of another, would certainly have raised in us a most pugnacious spirit of resentment. In this manner we continued rushing out of and into the smoke, till supper was finished, and then prepared for sleep. This time, however, I was determined not to be tormented; so I cut four stakes, drove them into the ground, and over them threw my gauze mosquito-net, previously making a small fire, with wet grass on it, to raise a smoke and prevent intruders from entering while I was in the act of putting it on; then, cautiously raising one end, I bolted in after the most approved harlequinian style, leaving my discomfited tormentors wondering at the audacity of a man who could snore in a state of unconcerned felicity in the very midst of the enemy's camp!

BALLANTYNE.

THE PYRAMIDS.

THE base of the great pyramid is about eight hundred feet square, covering a surface of about eleven acres, according to the best measurement, and four hundred and sixty-one feet high. Even as I walked around it, and looked up at it from the base, I did not feel its immensity, until I commenced ascending; then, having climbed some distance up, when I stopped to breathe, and looked down upon my friend below, who was dwindled to insect size, and then up at the great distance between me and the summit, then I realized, in all their force, the huge dimensions of this giant work. It took me twenty minutes to mount to the summit. The ascent is not particularly difficult, at least, with the assistance of the Arabs. There are two hundred and six tiers of stone, from one to four feet in height, each two or three feet smaller than the one below, making, what we call the steps. Very often the steps were so high that

I could not reach them with my feet. Indeed, for the most part, I was obliged to climb with my knees, deriving great assistance from the step which one Arab made for me with his knee, and the helping hand of another above.

No man can stand on the top of the great pyramid of Cheops, and look out upon the dark mountains of Mokattam, bordering the Arabian desert, upon the ancient city of the Pharaohs, its domes, its mosques and minarets, glittering in the light of a vertical sun—upon the rich valley of the Nile, and the “river of Egypt” rolling at his feet—the long range of pyramids and tombs, extending, along the edge of the desert, to the ruined city of Memphis, and the boundless and eternal sands of Africa, without considering that moment an epoch not to be forgotten. Thousands of years roll through his mind, and thought recalls the men who built them, the mysterious uses, the poets, historians, philosophers, and warriors, who have gazed upon them with wonder like his own.

The great pyramid is supposed to contain six millions of cubic feet of stone; and a hundred thousand men are said to have been employed twenty years in building it. The entrance is on the north side. The sands of the desert have encroached upon it, and, with the fallen stones and rubbish, have buried it to the sixteenth step. Climbing over this rubbish, the entrance is reached—a narrow passage three and a half feet square, lined with broad blocks of polished granite, descending, in the interior, for about ninety-two feet; the passage turns to the right, and winds up a steep ascent of eight or nine feet, and then falls into the natural passage, which is five feet high, and one hundred feet long, forming a continued ascent to a sort of landing place: in a small recess of this is the orifice or shaft, called the well; moving onward through a long passage, the explorer comes to what is called the Queen's chamber, seventeen feet long, fourteen wide, and twelve high. It is not the least interesting part of a visit to the

interior of the pyramids, as you are groping your way after your Arab guide, to feel your hand running along the sides of an enormous shaft, smooth and polished as the finest marble, and to see, by the light of the flaring torch, chambers of red granite, from the Cataracts of the Nile, the immense blocks standing around and above you, smooth and beautifully polished in places where, if our notions of the pyramids be true, they were intended but for few mortal eyes. At one end of what is called the King's chamber stands a sarcophagus, also of red granite ; its length is seven feet six inches, depth three feet and a half, breadth three feet three inches. Here is supposed to have slept one of the great rulers of the earth, the king of the then greatest kingdom of the world, the proud mortal for whom this mighty structure was raised. Where is he now ? Even his dry bones are gone, torn away by rude hands, and scattered by the winds of heaven.

STEPHENS.

THE BATTLE OF IVRY.

Now glory to the Lord of Hosts, from whom all glories are !
And glory to our Sovereign Liege, King Henry of Navarre !
Now let there be the merry sound of music and of dance,
Through thy corn-fields green, and sunny vines, oh pleasant land of France !

And thou Rochelle, our own Rochelle, proud city of the waters,

Again let rapture light the eyes of all thy mourning daughters.

As thou wert constant in our ills, be joyous in our joy,
For cold and stiff, and still, are they who wrought thy walls annoy.

Hurrah ! Hurrah ! a single field hath turned the chance of war,

Hurrah ! Hurrah ! for Ivry, and Henry of Navarre !

Oh ! how our hearts were beating, when, at the dawn of day,

We saw the army of the League drawn out in long array ;
With all its priest-led citizens, and all its rebel peers ;
And Appenzell's stout infantry, and Egmont's Flemish spears.

There rode the brood of false Lorraine, the curses of our land ;

And dark Mayenne was in the midst, a truncheon in his hand ;

And, as we looked on them, we thought of Seine's em-purpled flood,

And good Coligni's hoary hair, all dabbled with his blood ;
And we cried unto the living God, who rules the fate of war,

To fight for His own holy name, and Henry of Navarre.

The King is come to marshal us, all in his armour drest,
And he has bound a snow-white plume upon his gallant crest.

He looked upon his people, and a tear was in his eye ;
He looked upon the traitors, and his glance was stern and high.

Right graciously he smiled on us, as rolled from wing to wing,

Down all our line, a deafening shout, " God save our Lord the King ;"

" And if my standard-bearer fall, as fall full well he may,
For never saw I promise yet of such a bloody fray,
Press where ye see my white plume shine, amidst the ranks of war,

And be your Oriflamme to-day the helmet of Navarre."

Hurrah ! the foes are moving ! Hark to the mingled din,
Of fife, and steed, and trump, and drum, and roaring cul-verin.

The fiery Duke is pricking fast across Saint André's plain,
With all the hireling chivalry of Guelders and Almayne.
Now by the lips of those ye love, fair Gentlemen of France,
Charge for the Golden Lilies,—upon them with the lance.
A thousand spurs are striking deep, a thousand spears in
rest,

A thousand knights are pressing close behind the snow-
white crest :

And in they burst, and on they rushed, while, like a guid-
ing star,

Amidst the thickest carnage blazed the helmet of Navarre.

Now, God be praised ! the day is ours —Mayenne hath
turned his rein—

D'Aumale hath cried for quarter—the Flemish Count is
slain.

Their ranks are breaking like thin clouds before a Biscay
gale ;

The field is heaped with bleeding steeds, and flags, and
cloven mail.

And then we thought on vengeance, and, all along our van,
“ Remember Saint Bartholomew,” was passed from man to
man.

But out spake gentle Henry, “ No Frenchman is my foe :
Down, down with every foreigner, but let your brethren
go.”

Oh ! was there ever such a knight, in friendship or in war,
As our Sovereign Lord, King Henry, the Soldier of Navarre !

Ho ! maidens of Vienna ; Ho ! matrons of Lucerne ;
Weep, weep and rend your hair for those who never shall
return.

Ho ! Philip, send, for charity, thy Mexican pistoles,
That Antwerp monks may sing a mass for thy poor spear-
men's souls.

Ho ! gallant nobles of the League, look that your arms be
bright ;
Ho ! burghers of saint Genevieve, keep watch and ward to-
night,
For our God hath crushed the tyrant, our God hath raised
the slave !
And mocked the counsel of the wise, and the valour of
the brave.
Then glory to his holy name, from whom all glories are ;
And glory to our Sovereign Lord, King Henry of Navarre.
MACAULAY.

DISCOVERY OF AMERICA.

On Friday the 3d day of August, in the year 1492, Columbus set sail, a little before sunrise, in presence of a vast crowd of spectators, who sent up their supplications to Heaven for the prosperous issue of the voyage, which they wished rather than expected. Columbus steered directly for the Canary Islands, and arrived there without any occurrence that would have deserved notice on any other occasion ; but in a voyage of such expectation and importance, every circumstance was the object of attention. The rudder of the *Pinta* broke loose the day after she left the harbour, and that accident alarmed the crew, no less superstitious than unskilful, as a certain omen of the unfortunate destiny of the expedition. Even in the short run to the Canaries, the ships were found to be so crazy and ill-appointed as to be very improper for a navigation which was expected to be both long and dangerous. Columbus refitted them, however, to the best of his power, and having supplied himself with fresh provisions, he took his departure from Gomera, one of the most westerly of the Canary Islands, on the 6th day of September.

Here the voyage of discovery may properly be said to begin; for Columbus, holding his course due west, left immediately the usual track of navigation, and stretched into unfrequented and unknown seas. The first day, as it was very calm, he made but little way; but on the second he lost sight of the Canaries; and many of the sailors, dejected already and dismayed, when they contemplated the boldness of the undertaking, began to beat their breasts, and to shed tears, as if they were never more to behold land. Columbus comforted them with assurances of success, and the prospect of vast wealth in those opulent regions whither he was conducting them. This early discovery of the spirit of his followers taught Columbus that he must prepare to struggle, not only with unavoidable difficulties which might be expected from the nature of his undertaking, but with such as were likely to arise from the ignorance and timidity of the people under his command; and he perceived that the art of governing the minds of men would be no less requisite for accomplishing the discoveries which he had in view, than naval skill and undaunted courage. Happily for himself, and for the country by which he was employed, he joined to the ardent temper and inventive genius of a projector, virtues of another species, which are rarely united with them. He possessed a thorough knowledge of mankind, an insinuating address, a patient perseverance in executing any plan, the perfect government of his own passions, and the talent of acquiring an ascendant over those of other men. All these qualities, which formed him for command, were accompanied with that superior knowledge of his profession, which begets confidence in times of difficulty and danger.

To unskilful Spanish sailors, accustomed only to coasting voyages in the Mediterranean, the maritime science of Columbus, the fruit of thirty years' experience, improved by an acquaintance with all the inventions of the Portuguese, appeared immense. As soon as they put to sea, he

regulated everything by his sole authority; he superintended the execution of every order; and allowing himself only a few hours for sleep, he was at all other times upon deck. As his course lay through seas which had not formerly been visited, the sounding-line, or instruments for observation, were continually in his hands. After the example of the Portuguese discoverers, he attended to the motion of tides and currents, watched the flight of birds, the appearance of fishes, of sea-weeds, and of everything that floated on the waves, and entered every occurrence, with a minute exactness, in the journal which he kept. By the 14th of September the fleet was above two hundred leagues to the west of the Canary Isles, at a greater distance from land than any Spaniard had been before that time. There they were struck with an appearance no less astonishing than new. They observed that the magnetic needle in their compasses did not point exactly to the polar star, but varied towards the west, and as they proceeded, this variation increased. This appearance, which is now familiar, though it still remains one of the mysteries of nature, into the cause of which the sagacity of man hath not been able to penetrate, filled the companions of Columbus with terror. They were now in a boundless and unknown ocean, far from the usual course of navigation; nature itself seemed to be altered, and the only guide which they had left was about to fail them.

'Twas night. The Moon, o'er the wide wave, disclosed
Her awful face; and Nature's self reposed;
When, slowly rising in the azure sky,
Three white sails shone—but to no mortal eye,
Entering a boundless sea. In slumber cast,
The very ship-boy, on the dizzy mast,

Half breathed his orisons ! Alone unchanged,
Calmly, beneath, the great Commander ranged,
Thoughtful not sad ; and, as the planet grew,
His noble form, wrapt in his mantle blue,
Athwart the deck a deepening shadow threw.
"Thee hath it pleased—Thy will be done !" he said,
Then sought his cabin ; and, their garments spread,
Around him lay the sleeping as the dead,
When, by his lamp to that mysterious Guide,
On whose still counsels all his hopes relied,
That Oracle to man in mercy given,
Whose voice is truth, whose wisdom is from heaven,
Who over sands and seas directs the stray,
And, as with God's own finger, points the way,
He turned ; but what strange thoughts perplexed his soul,
When, lo, no more attracted to the Pole,
The Compass, faithless as the circling vane,
Fluttered and fixed, fluttered and fixed again !
At length, as by some unseen Hand imprest,
It sought with trembling energy—the West !
"Ah no !" he cried, and calmed his anxious brow.
"Ill, nor the signs of ill, 'tis thine to show ;
Thine but to lead me where I wished to go !"

COLUMBUS erred not. In that awful hour,
Sent forth to save, and girt with God-like power,
And glorious as the regent of the sun,
An Angel came ! He spoke, and it was done !
He spoke, and, at his call, a mighty Wind,
Not like the fitful blast, with fury blind,
But deep, majestic, in its destined course,
Sprung with unerring, unrelenting force,
From the bright East. Tides duly ebbcd and flowed ;
Stars rose and set ; and new horizons glowed ;
Yet still it blew ! As with primeval sway
Still did its ample spirit, night and day,

Move on the waters !—All, resigned to Fate,
Folded their arms and sate ; and seemed to wait
Some sudden change ; and sought, in chill suspense,
New spheres of being, and new modes of sense ;
As men departing, though not doomed to die,
And midway on their passage to eternity.

VOYAGE OF COLUMBUS.—*Continued.*

COLUMBUS still continued to steer due west, nearly in the same latitude with the Canary Islands. In this course they came within the sphere of the trade wind, which blows invariably from east to west between the tropics and a few degrees beyond them. He advanced before this steady gale with such uniform rapidity, that it was seldom necessary to shift a sail. When about four hundred leagues to the west of the Canaries, he found the sea so covered with weeds, that it resembled a meadow of vast extent, and in some places they were so thick as to retard the motion of the vessels. This strange appearance occasioned new alarm and disquiet. The sailors imagined that they were now arrived at the utmost boundary of the navigable ocean ; that those floating weeds would obstruct their farther progress, and concealed dangerous rocks, or some large tract of land which had sunk, they knew not how, in that place. Columbus endeavoured to persuade them, that what had alarmed ought rather to have encouraged them, and was to be considered as a sign of approaching land. At the same time a brisk gale arose, and carried them forward. Several birds were seen hovering about the ship, and directed their flight towards the west. The desponding crew resumed some degree of spirit, and began to entertain fresh hopes.

They had now been above three weeks at sea ; they had

proceeded far beyond what former navigators had attempted or deemed possible; all their prognostics of discovery, drawn from the flight of birds and other circumstances, had proved fallacious; the appearance of land, with which their own credulity or the artifice of their commander had from time to time flattered and amused them, had been altogether illusive, and their prospect of success seemed now to be as distant as ever. These reflections occurred often to men, who had no other object or occupation than to reason and discourse concerning the intention and circumstances of their expedition. They made impression, at first, upon the ignorant and timid, and, extending by degrees to such as were better informed or more resolute, the contagion spread at length from ship to ship. From secret whispers or murmurings they proceeded to open cabals and public complaints. They taxed their sovereign with inconsiderate credulity in paying such regard to the vain promises and rash conjectures of an indigent foreigner, as to hazard the lives of so many of her own subjects in prosecuting a chimerical scheme. They affirmed that they had fully performed their duty by venturing so far in an unknown and hopeless course, and could incur no blame for refusing to follow any longer a desperate adventurer to certain destruction. They contended that it was necessary to think of returning to Spain, while their crazy vessels were still in a condition to keep the sea; but expressed their fears that the attempt would prove vain, as the wind which had hitherto been so favourable to their course, must render it impossible to sail in the opposite direction. All agreed that Columbus should be compelled by force to adopt a measure on which their common safety depended. Some of the more audacious proposed, as the most expeditious and certain method for getting rid at once of his remonstrances, to throw him into the sea, being persuaded that, upon their return to Spain, the death of an unsuccessful projector would excite little concern, and be inquired into with no curiosity.

Columbus was fully sensible of his perilous situation. He had observed with great uneasiness the fatal operation of ignorance and of fear in producing disaffection among his crew, and saw that it was now ready to burst out into open mutiny. He retained, however, perfect presence of mind. He affected to seem ignorant of their machinations. Notwithstanding the agitation and solicitude of his own mind, he appeared with a cheerful countenance, like a man satisfied with the progress he had made, and confident of success. Sometimes he employed all the arts of insinuation to soothe his men. Sometimes he endeavoured to work upon their ambition or avarice, by magnificent descriptions of the fame and wealth which they were about to acquire. On other occasions, he assumed a tone of authority, and threatened them with vengeance from their sovereign, if by their dastardly behaviour they should defeat this noble effort to promote the glory of God, and to exalt the Spanish name above that of every other nation. Even with seditious sailors, the words of a man whom they had been accustomed to reverence were weighty and persuasive, and not only restrained them from those violent excesses which they meditated, but prevailed with them to accompany their admiral for some time longer.

“AH, why look back, tho’ all is left behind ?
 No sounds of life are stirring in the wind.—
 And you, ye birds, winging your passage home,
 How blest ye are !—We know not where we roam.
 We go,” they cried, “go to return no more ;
 Nor ours, alas, the transport to explore
 A human footstep on a desert shore !”

* * * * *

—Still, as beyond this mortal life impelled
 By some mysterious energy, He held

His everlasting course. Still self-possessed,
High on the deck He stood, disdaining rest ;
(His amber chain the only badge he bore,
His mantle blue such as his fathers wore)
Fathomed, with searching hand, the dark profound,
And scattered hope and glad assurance round ;
Tho' like some strange portentous dream, the Past
Still hovered, and the cloudless sky o'ercast.
Yet who but he undaunted could explore
A world of waves, a sea without a shore,
Trackless and vast and wild as that revealed
When round the Ark the birds of tempest wheeled ;
When all was still in the destroying hour—
No sign of man ! no vestige of his power !
One at the stern before the hour-glass stood,
As 'twere to count the sands ; one o'er the flood
Gazed for St. Elmo, while another cried
“Once more good morrow ! and sate down and sighed.
Day, when it came, came only with its light,
Though long invoked, 'twas sadder than the night !
Look where He would, for ever as He turned,
He met the eye of one that inly mourned.

At day-break might the Caravels be seen,
Chasing their shadows o'er the deep serene ;
Their burnished prows lashed by the sparkling tide,
Their green-cross standards waving far and wide.
And now once more to better thoughts inclined,
The seaman, mounting, clamoured in the wind.
The soldier told his tales of love and war ;
The courtier sung—sung to his gay guitar.

VOYAGE OF COLUMBUS.—*concluded.*

As they proceeded, the indications of approaching land
seemed to be more certain, and excited hope in proportion.

The birds began to appear in flocks, making towards the south-west. Columbus, in imitation of the Portuguese navigators, who had been guided in several of their discoveries by the motion of birds, altered his course from due west towards that quarter whither they pointed their flight. But, after holding on for several days in this new direction without any better success than formerly, having seen no object during thirty days but the sea and the sky, the hopes of his companions subsided faster than they had risen; their fears revived with additional force; impatience, rage, and despair appeared in every countenance. All sense of subordination was lost; the officers, who had hitherto concurred with Columbus in opinion, and supported his authority, now took part with the private men; they assembled tumultuously on the deck, expostulated with their commander, mingled threats with their expostulations, and required him instantly to tack about and to return to Europe. Columbus saw that it was vain to think of employing either gentle or severe measures to quell a mutiny so general and so violent. He therefore promised solemnly to his men that he would comply with their request, provided they would accompany him and obey his command for three days longer, and if, during that time, land were not discovered, he would then abandon the enterprise, and direct his course towards Spain.

Enraged as the sailors were, and impatient to turn their faces again towards their native country, this proposition did not appear to them unreasonable. Nor did Columbus hazard much in confining himself to a term so short. The presages of discovering land were now so numerous and promising, that he deemed them infallible. For some days the sounding-line reached the bottom, and the soil which it brought up indicated land to be at no great distance. The flocks of birds increased, and were composed not only of sea-fowl, but of such land birds as could not be supposed to fly far from the shore. The crew of the *Pinta* observed

a cane floating, which seemed to have been newly cut, and likewise a piece of timber artificially carved. The sailors aboard the *Nina* took up the branch of a tree with red berries, perfectly fresh. The clouds around the setting sun assumed a new appearance; the air was more mild and warm, and, during night, the wind became unequal and variable. From all these symptoms, Columbus was so confident of being near land, that on the evening of the eleventh of October, after public prayers for success, he ordered the sails to be furled, and the ships to lie to, keeping strict watch, lest they should be driven ashore in the night. During this interval of suspense and expectation, no man shut his eyes; all kept upon deck, gazing intently towards that quarter where they expected to discover the land, which had been so long the object of their wishes.

About two hours before midnight, Columbus, standing on the forecastle, observed a light at a distance, and privately pointed it out to Pedro Gutierrez, a page of the queen's wardrobe. Gutierrez perceived it, and calling to Salcedo, comptroller of the fleet, all three saw it in motion, as if it were carried from place to place. A little after midnight the joyful sound of *land! land!* was heard from the *Pinta*, which kept always ahead of the other ships. But, having been so often deceived by fallacious appearances, every man was now become slow of belief, and waited in all the anguish of uncertainty and impatience for the return of day. As soon as morning dawned, all doubts and fears were dispelled.

From every ship an island was seen about two leagues to the north, whose flat and verdant fields, well stored with wood, and watered with many rivulets, presented the aspect of a delightful country. The crew of the *Pinta* instantly began the *Te Deum*, as a hymn of thanksgiving to God, and were joined by those of the other ships, with tears of joy and transports of congratulation. This office of gratitude to heaven was followed by an act of justice to their

commander. They threw themselves at the feet of Columbus, with feelings of self-condemnation mingled with reverence. They implored him to pardon their ignorance, incredulity, and insolence, which had created him so much unnecessary disquiet, and had so often obstructed the prosecution of his well-concerted plan; and passing, in the warmth of their admiration, from one extreme to another, they now pronounced the man, whom they had so lately reviled and threatened, to be a person inspired by heaven with sagacity and fortitude more than human, in order to accomplish a design so far beyond the ideas and conception of all former ages.

As soon as the sun arose, all their boats were manned and armed. They rowed towards the island with their colours displayed, with warlike music, and other martial pomp. As they approached the coast, they saw it covered with a multitude of people, whom the novelty of the spectacle had drawn together, whose attitude and gestures expressed wonder and astonishment at the strange objects which presented themselves to their view. Columbus was the first European who set foot in the new world which he had discovered. He landed in a rich dress, and with a naked sword in his hand. His men followed, and kneeling down, they all kissed the ground which they had so long desired to see. They next erected a crucifix, and, prostrating themselves before it, returned thanks to God for conducting their voyage to such an happy issue. They then took solemn possession of the country for the Crown of Castile and Leon, with all the formalities which the Portuguese were accustomed to observe in acts of this kind in their new discoveries.

ROBERTSON.

Twice in the zenith blazed the orb of light ;
No shade, all sun, insufferably bright !

Then the long line found rest—in coral groves
Silent and dark, where the sea-lion roves :—
And all on deck, kindling to life again,
Sent forth their anxious spirits o'er the main.

“ Oh whence, as wafted from Elysium, whence
These perfumes, strangers to the raptured sense ?
These boughs of gold, and fruits of heavenly hue,
Tinging with vermeil light the billows blue ?
And (thrice, thrice blessed is the eye that spied,
The hand that snatched it sparkling in the tide)
Whose cunning carved this vegetable bowl,
Symbol of social rites, and intercourse of soul ?”
Such to their grateful ear the gush of springs,
Who course the ostrich, as away she wings ;
Sons of the desert ! who delight to dwell
'Mid kneeling camels round the sacred well ;
Who, ere the terrors of his pomp be passed,
Fall to the demon in the redd'ning blast.

The sails were furled : with many a melting close,
Solemn and slow the evening-anthem rose,
Rose to the Virgin. 'Twas the hour of day,
When setting suns o'er summer-seas display
A path of glory, opening in the west
To golden climes, and islands of the blest ;
And human voices, on the silent air,
Went o'er the waves in songs of gladness there !

Chosen of Men ! 'Twas thine, at noon of night,
First from the prow to hail the glimmering light ;
(Emblem of Truth divine, whose secret ray
Enters the soul, and makes the darkness day !)
“ PEDRO ! RODRIGO ! there, methought, it shone !
There—in the west ! and now, alas, 'tis gone !—
'Twas all a dream ! we gaze and gaze in vain !
—But mark and speak not, there it comes again !
It moves ! what form unseen, what being there
With torch-like lustre fires the murky air ?

His instincts, passions, say, how like our own ?
 Oh ! when will day reveal a world unknown ?"

* * * * *

Long on the deep the mists of morning lay,
 Then rose, revealing, as they rolled away,
 Half-circling hills, whose everlasting woods
 Sweep with their sable skirts the shadowy floods :
 And say, when all, to holy transport given,
 Embraced and wept as at the gates of Heaven,
 When one and all of us, repentant ran,
 And, on our faces, blessed the wondrous Man ;
 Say, was I then deceived, or from the skies
 Burst on my ear seraphic harmonies ?
 "Glory to God !" unnumbered voices sung,
 "Glory to God !" the vales and mountains rung,
 Voices that hailed Creation's primal morn,
 And to the shepherds sung a Saviour born.

ROGERS.

THE GULF STREAM.

THERE is a river in the ocean. In the severest droughts it never fails, and in the mightiest floods it never overflows. Its banks and its bottoms are of cold water, while its current is of warm. The Gulf of Mexico is its fountain, and its mouth is in the Arctic Seas. It is the Gulf Stream. There is in the world no other such majestic flow of waters. Its current is more rapid than the Mississippi or the Amazon, and its volume more than a thousand times greater.

Its waters, as far out from the Gulf as the Carolina coasts, are of an indigo blue. They are so distinctly marked, that their line of junction with the common seawater may be traced by the eye. Often one half of the vessel may be perceived floating in Gulf Stream water, while the other half is in common water of the sea ; so

sharp is the line, and such the want of affinity between those waters, and such, too, the reluctance, so to speak, on the part of those of the Gulf Stream to mingle with the common water of the sea.

Near the equator, and close to the African coasts, the mighty stream sets out. Increasing quickly in bulk, and spreading out more and more on both sides of the equator it flows rapidly due west towards the coast of South America. In the mid-sea between the two continents, a branch strikes off from it to the north-west, and loses itself at last by its continual widening out, about the twentieth degree of latitude.

The main stream runs farther west. At the eastern point of South America, Cape Roque, it splits into two arms. One of these, the Southern, washes the coast of South America, and, between the tropic of Capricorn and the mouth of the La Plata, beyond the limit of the constant east wind, turns gradually to the South-east. It may be traced, in a direction south-east from the Cape of Good Hope, far into the Indian Ocean. The Northern arm of the equatorial current follows the north-east coast of South America, gaining continually in temperature under the influence of the tropical sun. Its speed has now increased to sixty-eight miles in twenty-four hours, and by the union with it of the waters of the river Amazon, rises to one hundred miles, but it soon falls off again when it gets into the Caribbean Sea. Flowing slowly through the whole length of this Sea, it reaches the Gulf of Mexico, through the straits of Yucatan, where a part of it immediately sweeps round Cuba; but the main stream nearly follows the coast curve of the Gulf, and at last, pouring out between Florida and Cuba, takes the name of the Gulf Stream. Narrow at first, it flows round the peninsula of Florida, and, with a speed of about seventy or eighty miles, follows the coast at first in a due north, afterwards in a north-east direction. At the latitude of Washington,

it leaves the North American coast altogether, keeping its north-eastward course; and, to the south of the St. George's and Newfoundland Banks, it spreads its waters more and more over the Atlantic Ocean, as far as the Azores.

The maximum temperature of the Gulf Stream is 86° , or about 9° above the ocean temperature due to the latitude. Increasing its latitude 10° , it loses but 2° of its temperature; and, after having run three thousand miles toward the north, it still preserves, even in winter, the heat of summer. With this temperature it crosses the 40th degree of latitude, and there, overflowing its liquid banks, it spreads itself out for thousands of square leagues over the cold waters around, and covers the ocean with a mantle of warmth that serves so much to mitigate in Europe the rigours of winter. Moving now more slowly, but dispensing its genial influences more freely, it finally meets the British Islands. By these it is divided, one part going into the polar basin of Spitzbergen, the other entering the Bay of Biscay, but each with a warmth considerably above the ocean temperature. Such an immense volume of heated water cannot fail to carry with it beyond the seas a mild and moist atmosphere. And this it is which so much softens climate there. Every west wind that blows crosses the Stream on its way to Europe, and carries with it a portion of this heat to temper there the northern winds of winter. It is the influence of this Stream upon climate that makes Erin the "Emerald Isle of the Sea," and that clothes the shores of Albion in evergreen robes; while in the same latitude, on the Western side of the Atlantic, the coasts of Labrador are fast bound in fetters of ice. MAURY.

VISIT TO POMPEII.

A BRIGHT morning gave promise of a favourable day for our projected visit to Pompeii. The heat was broiling, the

road dusty, but I could feel nothing, save that every step brought us nearer. Turning off from the high road, and passing through vineyards and cotton-fields, we came in sight of the enormous heaps of earth and ashes thrown out by the excavators. Winding by the side of these for a little way we reached a sudden turn, and walking on a few yards, an arched gateway stood before us. It was the "Gate of Herculaneum"—the entrance to the "Street of the Tombs!" We looked on Pompeii, the City of the Dead!

Several monuments rise on either side of this "the Street of the Tombs," with here and there ornamented seats, where once grave senators sat and pondered on the affairs of the Commonwealth,—where once the fond mother sat and gazed upon her joyous-hearted child, dreaming bright dreams of his future greatness whilst he played at her feet, —where once the sons and daughters of Pompeii, at the sweet hour of eve, sat and looked out on the broad and placid sea with its delicious coasts, and its varied and glowing hues taken from the rosy clouds which mirrored themselves in its bosom, whilst fragrance was wafted by every breath from the rich plains, the vineyards, and olive groves.

Everything tells us of the living, but life itself is gone! It is but the clay-cold form we behold,—the spirit that animated it has departed: it is the city of the dead!

Following our guide, we visited the public buildings of the town. The Forum is of an oblong shape, paved with marble, and supported by a double row of columns. The sun shone as of old on the white glittering pillars, but all else was cold and still and dead! On the right are the graceful remains of the Temple of Venus. Beyond this the Basilica, or court of justice, a majestic structure adorned with twenty-eight Corinthian columns. The Temple of Isis is in good preservation, and possesses peculiar interest: the walls are ornamented with the

pomegranate, which was consecrated to their goddess. Statues stood in the niches around the building. Elevated on seven steps of Parian marble, was the altar, and close to it, on fluted pedestals, the statues of Isis and the silent and mystic Orus.

Passing on, we came to a part of one of the public buildings where, at the moment of the city's destruction, workmen had been employed upon the columns—columns never destined to be finished! They lie now as they were last touched two thousand years ago! It is impossible to notice each object of classic and local interest pointed out as we proceeded along the Corso to the Theatre. Deep tracks of wheels are indented on the pavement—the tread of feet has visibly worn down the raised footpaths, and in these steps we trod!

It is a noble building that theatre: its pillars, its doors, its strong seats, rising one above another; its vaulted passages: all are as perfect as though occupied the night before. But no tones of music will ever again swell within its walls, and call their echoes forth. No voice of softest eloquence again wake the enthusiasm of listening thousands! the stream of life, for one and all, lies locked in the icy sleep of death!

We resumed our way over much of the site of the buried city to the Amphitheatre. It is supposed that not more than a third of the town has yet been excavated. This was one of the most interesting parts of the whole; presenting, as its utter silence does, so great a contrast to the stirring, exciting, almost maddening scenes, it once has witnessed! We sat down, and silently looked around. My fancy was busy, and soon created for itself a vivid picture of the past. The evening before the last sun rose on the gay, the luxurious, the dissipated Pompeii, seemed before me, and I thought, too, of the eve of the world's destruction by the Flood, as well as that which closed on the devoted Sodom and Gomorrah, whose sins and whose

fate so peculiarly resembled those of this city. How serenely still, on the eve of the terrible night, sleeps the starlight on the unconscious city. How breathlessly its pillared streets repose in their security. How calmly the sculptured forms look down from their marble pedestals. How softly ripple the dark blue waves beyond; how cloudless the vaulted skies. The giant form of the vast Amphitheatre lies part in deeper shadow from the pale moonbeam resting on its marble columns, while scarce a breath breaks the still scene, save the murmur of the fountain's spray, whispering soft music to the flowers bathed in its cool freshness! Oh! might not such a night as this have steeped in sweetness the doomed city ere it woke to sleep no more, save the sleep that knows no waking! Then again my fancy seemed to retrace its way—to behold the multitudes assembling for the bloody games so often witnessed in the very spot wherein we sat. From all parts they pour in: horsemen, pedestrians, peasants in their gay holiday attire; senators in their robes of office; high-born women with their gorgeous jewels: all sweep as a living stream into the charmed circle. The seats are filled, tier above tier—a countless multitude! The din is hushed—a strange wild cry is heard: every eye is turned to the dark caverns below. It is the lion's roar! Another sound rises above the hum of voices—a flourish of trumpets proclaims the approach of the gladiators; the arena is prepared! A deep breathless hush lies like a spell on the assembled multitudes! . . . Too vividly came the picture of horror. I turned from its fearful idea; and startlingly the wild solitude and unbroken silence came upon me! The breeze sighed through the ruined arches, among the walls glanced the noiseless lizard, the only living creature save ourselves; the song of the bird came not there,—the freshness of nature alone breathed of life;—in quiet and in stillness the green vines waved around; whilst the eye rested on the dark and fearful mountain, with its mysterious

sounds, and still smoking fiery summit, standing out against the warm bright sky, as though to remind one that *it* was the Angel of Death that had passed over and blighted this fair scene.

M. L. M. D.

THE shroud of years thrown back, thou dost revive,
Half-raised, half-buried, dead, yet still alive !
Gathering the world around thee, to admire
Thy disinterment, and with hearts on fire,
To catch the form and fashion of the time
When Pliny lived and thou wert in thy prime ;
So strange thy resurrection, it may seem
Less waking life than a distressful dream.
Hushed in this once-gay scene, nor murmurs more
The city's din, the crowd's tumultuous roar,
The laugh convivial, and the chiming sound
Of golden goblets with Falernian crowned ;
The mellow breathings of the Lydian flute,
And the sweet drip of fountains, as they shoot
From marble basements,—these, all these are mute !
Closed are her springs, unnumbered fathoms deep,
Her splendid domes are one dismantled heap,
Her temples soiled, her statues in the dust,
Her tarnished medals long devoured by rust ;
Its rainbow-pavements broken from the bath,
The once-thronged Forum—an untrodden path ;
The fanes of love—forgotten cells ; the shrines
Of vaunted gods—inurned in sulphur mines ;
The abodes of art, of luxury, and taste—
Tombs of their once glad residents—a waste,
O'er which compassionate years have gradual thrown
The trailing vine, and bid the myrtle moan.

Lyrical Gems.

A BRAZILIAN FOREST.

THE day has passed delightfully. Delight itself, however, is a weak term to express the feelings of a naturalist, who, for the first time, has wandered by himself in a Brazilian forest. The elegance of the grasses, the novelty of the parasitical plants, the beauty of the flowers, the glossy green of the foliage, but, above all, the general luxuriance of the vegetation, filled me with admiration. A most paradoxical mixture of sound and silence pervades the shady parts of the wood. The noise from the insects is so loud, that it may be heard even in a vessel anchored several hundred yards from the shore; yet within the recesses of the forest a universal silence appears to reign.

Learned naturalists describe these scenes of the tropics by naming a multitude of objects, and mentioning some characteristic feature of each. To a learned traveller this, possibly, may communicate some definite idea; but who else, from seeing a plant in a herbarium, can imagine its appearance when growing in its native soil? Who, from seeing choice plants in a hothouse, can magnify some into the dimensions of forest-trees, and crowd others into an entangled jungle? Who, when examining, in the cabinet of the entomologist, the gay, exotic butterflies, and singular cicadas, will associate with these lifeless objects, the ceaseless harsh music of the latter, and the lazy flight of the former,—the sure accompaniments of the still, glowing noonday of the tropics? It is when the sun has attained its greatest height, that such scenes should be viewed: then the dense, splendid foliage of the mango, hides the ground with its darkest shade, whilst the upper branches are rendered, from the profusion of light, of the most brilliant green. In the temperate zones the case is different: the vegetation there is not so dark or so rich; and hence the rays of the declining sun, tinged of a red, purple, or

bright yellow colour, add most to the beauties of those climes.

When quietly walking along the shady pathways, and admiring each successive view, I wished to find language to express my ideas. Epithet after epithet was found too weak to convey to those who have not visited the inter-tropical regions the sensations of delight which the mind experiences. I have said that the plants in a hothouse fail to communicate a just idea of the vegetation, yet I must recur to it. The land is a great, wild, untidy, luxuriant hothouse, made by Nature for herself, but taken possession of by man, who has studded it with gay houses and formal gardens. How great would be the desire of every admirer of nature to behold, if such were possible, the scenery of another planet! yet to every person in Europe it may be truly said that, at the distance of only a few degrees from his native soil, the glories of another world are opened to him. In my last walk, I stopped again and again to gaze at these beauties, and endeavoured to fix in my mind for ever, an impression which at the time I knew sooner or later must fail. The form of the orange-tree, the cocoa-nut, the palm, the mango, the tree-fern, the banana, will remain clear and separate; but the thousand beauties which unite these into one perfect scene must fade away; yet they will leave, like a tale heard in childhood, a picture full of indistinct, but most beautiful figures.

DARWIN.

MY MOTHER'S PICTURE.

MY MOTHER! when I learn'd that thou wast dead,
Say, wast thou conscious of the tears I shed?
Hover'd thy spirit o'er thy sorrowing son,
Wretch, even then, life's journey just begun?

Perhaps thou gav'st me, though unfelt, a kiss ;
Perhaps a tear, if souls can weep in bliss—
Ah, that maternal smile ! it answers—Yes.
I heard the bell toll'd on thy burial day,
I saw the hearse that bore thee slow away,
And turning from my nurs'ry window, drew
A long, long sigh, and wept a last adieu !
But was it such ?—It was.—Where thou art gone,
Adieus and farewells are a sound unknown.
May I but meet thee on that peaceful shore,
The parting word shall pass my lips no more !
Thy maidens, grieved themselves at my concern,
Oft gave me promise of thy quick return.
What ardently I wish'd, I long believed,
And disappointed still, was still deceived.
By expectation every day beguiled,
Dupe of *to-morrow* ev'n from a child.
Thus many a sad to-morrow came and went,
Till, all my stock of infant sorrow spent,
I learn'd at last submission to my lot,
But, though I less deplored thee, ne'er forgot.

Where once we dwelt our name is heard no more,
Children not thine have trod thy nursery floor ;
And where the gardener Robin, day by day,
Drew me to school along the public way,
Delighted with my bauble coach, and wrapp'd
In scarlet mantle warm, and velvet capp'd,
'Tis now become a history little known,
That once we call'd the past'ral house our own.
Short-lived possession ! but the record fair
That memory keeps of all thy kindness there,
Still outlives many a storm, that has effaced
A thousand other themes less deeply traced.
Thy nightly visits to my chamber made,
That thou might'st know me safe and warmly laid ;
Thy morning bounties ere I left my home,
The biscuit or confectionary plum ;

The fragrant waters on my cheeks bestow'd
By thy own hand, till fresh they shone and glow'd.
All this, and more endearing still than all,
Thy constant flow of love, that knew no fall,
Ne'er roughen'd by those cataracts and breaks,
That humour interposed too often makes ;
All this still legible in memory's page,
And still to be so, to my latest age,
Adds joy to duty, makes me glad to pay
Such honours to thee as my numbers may ;
Perhaps a frail memorial, but sincere,
Not scorn'd in heaven, though little noticed here.

Could time, his flight reversed, restore the hours
When, playing with thy vesture's tissued flowers,
The violet, the pink, and jessamine,
I pricked them into paper with a pin,
(And thou wast happier than myself the while,
Would softly speak, and stroke my head and smile,)
Could those few pleasant days again appear,
Might one wish bring them, would I wish them here ?
I would not trust my heart—the dear delight
Seems so to be desired, perhaps I might.
But no—what here we call our life is such,
So little to be loved, and thou so much,
That I should ill requite thee to constrain
Thy unbound spirit into bonds again.

Thou, as a gallant bark from Albion's coast
(The storms all weather'd and the ocean cross'd)
Shoots into port at some well-haven'd isle,
Where spices breathe, and brighter seasons smile,
There sits quiescent on the floods, that show
Her beauteous form reflected clear below,
While airs impregnated with incense play
Around her, fanning light her streamers gay ;
So thou, with sails how swift ! hast reach'd the shore,
“ Where tempests never beat nor billows roar,”

And thy loved consort on the dangerous tide
Of life, long since has anchor'd by thy side.
But me, scarce hoping to attain that rest,
Always from port withheld, always distress'd—
Me howling blasts drive devious, tempest-toss'd,
Sails ripp'd, seams op'ning wide, and compass lost,
And day by day some current's thwarting force
Sets me more distant from a prosp'rous course.
But, O the thought that thou art safe, and he !
That thought is joy, arrive what may to me.
My boast is not, that I deduce my birth
From loins enthron'd and rulers of the earth ;
But higher far my proud pretensions rise—
The son of parents pass'd into the skies.
And now, farewell—Time unrevoked has run
His wonted course, yet what I wish'd is done.
By contemplation's help, not sought in vain,
I seem to have lived my childhood o'er again,
To have renew'd the joys that once were mine,
Without the sin of violating thine ;
And, while the wings of Fancy still are free,
And I can view this mimic show of thee,
Time has but half succeeded in his theft—
Thyself removed, thy power to soothe me left.

COWPER.

CLAIMS OF THE JEWS.

IN advocating the cause of Israel, I would ask, and strongly too, is the account of *justice* towards that nation settled? Is the long arrear of Gentile *gratitude* to that nation discharged? For to what blessing shall we refer in the long catalogue of our own mercies, which we have not derived from Israel?

Amidst the sorrows and vicissitudes of life, do we find daily consolations from God? Under the terrors of conscience, do we behold a peaceful asylum in the cross of Christ? By the bed of dying worth, or at the oft-frequented grave of departed friendship, do we wipe away our tears in the sure and certain hope of a resurrection to the life eternal? From whence do all these consolations flow? They flow to us from Judah. The Volume of God was penned by Jewish hands—the Gospel was proclaimed by Jewish lips—yea, that Sacred Victim on the cross—the world's only hope—the sinner's only joy—wears not even He the lineaments of the children of Abraham? Christians! at length remove the stigma—repay the debt—admit the claims of justice—yield to the impulse of gratitude—feel—toil—supplicate for those whose forefathers felt, and toiled, and prayed for you!

Think, my brethren, of all their *former* grandeur, and contrast it with their *present* desolation. Such a contrast raises, even under ordinary circumstances, a keen emotion in the human heart. Why does the traveller fondly linger amidst the scenes of ancient art, or power, or influence? Why for so many a year have the poet and the philosopher wandered amidst the fragments of Athens and of Rome? Why paused, with strange and kindling feelings, amidst their broken columns—their mouldering temples—their deserted plains? It is because their day of glory is passed—it is because their name is obscured—their power is departed, their influence is lost!

Similar emotions have, indeed, been often felt amidst the scenes of Jewish fame. The forsaken banks of Jordan, where the Psalmist once tuned his lyre and uttered his prophetic songs—the blighted plains of Galilee, where the Saviour often bent His lonely steps to cheer the widow's dwelling—the ruined city, once the terror of surrounding nations—the forgotten temple, whose walls once echoed back the accents of that voice “which spake as never man

spake"—these images and memorials of former days have often produced a solemn sadness in the minds of those who have visited the shores of Palestine—and these feelings have responded to the affecting complaint, *Thy holy cities are a wilderness—Zion is a wilderness—Jerusalem is a desolation. Our holy and our beautiful house, where our fathers praised thee, is burned up with fire, and all our pleasant things are laid waste.*

But is there no emphasis of sadness to be found in the sordid and degraded state of those who wander through the world forgotten and forlorn, though once the honoured servants, the favoured children of the Lord? Shall the sculptured stone—the broken shaft—the time-worn capital—even the poor fragments of some profane sanctuary—shall these affect so deeply the heart—and shall the moral ruin, the spiritual decay, the symptoms of eternal perdition—shall these vestiges of desolation excite no feeling in our bosoms?

"Oh! where a sight shall shuddering sorrow find
Sad as the ruins of the human mind?"

And where is a ruin to be found so mournful and so complete as that which the moral aspect of Judah now presents to our view?

NOEL.

A HEBREW MELODY.

THE wild gazelle on Judah's hills
Exulting yet may bound,
And drink from all the living rills
That gush on holy ground ;
Its airy step and glorious eye
May glance in tameless transport by :—

A step as fleet, an eye more bright
Hath Judah witness'd there ;

And o'er her scenes of lost delight
 Inhabitants more fair.
 The cedars wave on Lebanon,
 But Judah's statelier maids are gone !

More blest each palm that shades those plains
 Than Israel's scatter'd race ;
 For, taking root, it there remains
 In solitary grace :
 It cannot quit its place of birth,
 It will not live in other earth.

But we must wander witheringly,
 In other lands to die ;
 And where our fathers' ashes be,
 Our own may never lie :
 Our temple hath not left a stone,
 And Mockery sits on Salem's throne. BYRON.

 EXCELSIOR.

"But it boots not to look backwards. Forwards! forwards! forwards!
 should be one's motto."—*Arnold*.

THE shades of night were falling fast,
 As through an Alpine village passed
 A youth, who bore, 'mid snow and ice,
 A banner with the strange device,
 Excelsior!

His brow was sad ; his eye beneath,
 Flashed like a falchion from its sheath,
 And like a silver clarion rung
 The accents of that unknown tongue,
 Excelsior!

In happy homes he saw the light
Of household fires gleam warm and bright ;
Above, the spectral glaciers shone,
And from his lips escaped a groan,
Excelsior !

"Try not the Pass!" the old man said ;
"Dark lowers the tempest overhead,
The roaring torrent is deep and wide!"
And loud that clarion voice replied
Excelsior !

"Beware the pine-tree's withered branch!
Beware the awful avalanche!"
This was the peasant's last Good-night,
A voice replied, far up the height,
Excelsior !

At break of day, as heavenward
The pious monks of Saint Bernard
Uttered the oft-repeated prayer,
A voice cried through the startled air,
Excelsior !

A traveller, by the faithful hound,
Half-buried in the snow was found,
Still grasping, in his hand of ice,
That banner with the strange device,
Excelsior !

There in the twilight cold and gray,
Lifeless, but beautiful, he lay,
And from the sky, serene and far,
A voice fell, like a falling star,
Excelsior !

LONGFELLOW.

THE WINDS.

THE winds are currents of the air exactly the same in kind as those of the waters in rivers and in the seas. Every disturbance of the balance between neighbouring masses of air, an increase of density, and consequently of pressure on the one side, or a diminution of density on the other, immediately sets up a movement from the heavier towards the lighter air ; just as water is set in motion, if it suffers a greater pressure on one side than on the other. The most usual and general cause of such disturbances of the balance of the air is *unequal heating*. The causes upon which the draught of our lamps, the burning of the fuel in our fire-places, and the airing of our rooms depend, are the same as those which we find at work as the moving power of the slightest breezes and of the mightiest gales, which stir the restless air, and mingle it in every climate.

The air takes its heat, in the first place, chiefly from the ground ; that the warmed and so expanded air rises, and that it is only in this way that the heat of the soil is spread over the higher regions of the atmosphere. Now the soil is not everywhere equally heated. The degree, in which it is favoured in this respect, depends, as you know, greatly upon the situation and latitude of the place. Besides this, certain substances have the property of absorbing more of the sun's rays than can others, supposing equal quantities of heat to fall upon both. Again, other substances allow the sun's heat to penetrate deeper ; and thus from one cause or the other the soil at different places takes a different temperature. Thus during the day-time the temperature in the shade of trees, of houses, and of clouds, in moist meadows and forests, and on surfaces of water, is usually lower than on dry soils, on rocks, on roofs, and on level plains. The air which rises most quickly over the warmest spots of the soil, is replaced by air com-

ing in from cooler places ; and thus are set up those movements of the air, which we generally find on the borders of forests, in the shade of trees, at the openings of shady mountain glens, and in such valleys themselves, on the banks of rivers and lakes, and on the sea-shore.

It is impossible that the air can flow from one place to another, without being replaced by a movement in the opposite direction, for instance, by a return current in the upper regions of the atmosphere. The following experiment will clearly illustrate this. If a door be set ajar between two rooms, one of which is filled with cold air, the other with warm ; and if now a lighted candle be held at the crevice, at different heights one after another ; you will remark that at the bottom the flame will be turned from the cold room into the warm, at the top it will be driven from the warm towards the cold room, and at some point near the middle height it will burn steadily upright. From this you will learn that there are two currents, one above the other, and in opposite directions.

Land and Sea Breezes.—Just the same process goes on in the open air, wherever neighbouring tracts of land have an unequal temperature, which they impart to the air that hangs over them. In every hot summer's day there are streams of air mounting up from such spots on the soil as are most strongly heated ; these currents carry with them the moisture as well as the warmth of the ground, and they sink again over cooler places, such as surfaces of water and forests. This is well shown by the periodical *Land and Sea Breezes*, which, on many coasts blow from the sea to the land by day, and by night from land to sea. If the land is more heated than the sea during the day, the air that is over the land will mount upwards, and the cool sea air will flow into its place ; the air getting cooled in the upper regions falls down again over the sea. During the night, the land is more cooled than the surface of the water ; the latter at last becoming warmer, the air flows

from the land to the sea, while the sea air, now becoming lighter, mounts upwards.

Land and sea breezes occur in high latitudes only during the summer months ; in tropical climates, however, they follow with the greatest regularity, and become of high importance to shipping. The sea breeze springs up in the morning some time after sunrise, increases in strength till about two or three o'clock in the afternoon, and then gradually falls off. About the time of sunset a perfect calm prevails. Soon after the land wind gets up, and blows with gradually increasing strength through the greatest part of the night, and begins to lull towards morning.

These alternating air currents appear on all coasts within the tropics, even on those of the smallest islands, and they occur every day with perfect regularity, unless they are masked or turned from their true direction by other more powerful winds. The land and sea breezes are, for the most part, felt only at a small distance from the shore. On some far-stretching coasts, however, such as that of Peru, their influence reaches a great distance out to sea.

Trade-Winds.—In the hottest zone of our earth an uninterrupted current of warm air rises from over land and sea, and must be replaced from below ; and thus a movement of colder air sets in from higher latitudes on both sides towards the equator. The air, that has mounted up, now flows back in the higher regions of the atmosphere on both sides towards the poles, and falling, as it is gradually cooled in its progress, reaches the earth again in the middle or higher latitudes. This is a circulation of the same kind as that presented on a far smaller scale by the land and sea breezes.

In the torrid zone, then, we find in the lower layers of the atmosphere, on both sides of the equator, polar winds—blowing from the poles to the equator—north winds in the northern hemisphere, and south winds in the southern ; both of which, however, for a reason which I shall pre-

sently explain, take a more and more westward direction as they approach the equator. These are called the *Trade-winds*.

In the higher layers of the atmosphere, equatorial winds prevail,—winds whose general direction is from the equator to the poles,—which however take a more and more westerly direction as they progress. These are called the *Upper or Returning Trade-winds*.

Where the lower trade-winds of the northern and southern hemispheres meet, a region lies, in which there blows only a slight east wind, which, however, often lulls altogether, and is sometimes changed for the most violent storms. This is the *Region of Calms* so much dreaded by sailors. In this belt, the hottest of the earth, the currents of air that flow from the poles, becoming continually warmer, do not come down lower than at least twenty thousand feet above the surface, for no traveller even on the highest peaks of the Andes has ever got into the upper trade-wind. However, that it is blowing there we know from the little white clouds, which are sometimes seen at great heights coming up, as it were, against the lower trade wind. Several times, too, more distinct evidence of them has been obtained from the ashes,—which they have carried with them immediately after volcanic discharges.

BUFF.

THE ANIMAL KINGDOM.

WITHOUT being versed in Natural History, you ought to know whether the animal before you belongs to the *Vertebrata*, *Mollusca*, *Articulata*, *Radiata*, or *Protozoa*.

A glance at the contents of our glass vases will yield us samples of each of these five divisions of the animal kingdom. We begin with this Triton. It is a representative

of the VERTEBRATE division, or sub-kingdom. You have merely to remember that it possesses a backbone and an internal skeleton, and you will at once recognize the cardinal character which makes this Triton range under the same general head as men, elephants, whales, birds, reptiles, or fishes. All these, in spite of their manifold differences, have this one character in common:—they are all back-boned ; they have all an internal skeleton ; they are all formed according to one general type. In all vertebrate animals the skeleton is found to be identical in plan. Every bone in the body of a triton has its corresponding bone in the body of a man, or of a mouse ; and every bone preserves the same connection with other bones, no matter how unlike may be the various limbs in which we detect its presence. Thus, widely as the arm of a man differs from the fin of a whale, or the wing of a bird, or the wing of a bat, or the leg of a horse, the same number of bones, and the same connections of the bones, are found in each. A fin is one modified form of the typical limb ; an arm is another ; a wing another. That which is true of the limbs, is also true of all the organs ; and it is on this ground that we speak of the vertebrate type. From fish to man one common plan of structure prevails ; and the presence of a backbone is the index by which to recognize this plan.

The Triton has been wriggling grotesquely in our grasp while we have made him our text, and, now he is restored to his vase, plunges to the bottom with great satisfaction at his escape. This water-snail, crawling up the side of the vase, and cleaning it of the green growth of microscopic plants, which he devours, shall be our representative of the second great division—the MOLLUSCA. I cannot suggest any obvious character so distinctive as a backbone, by which the word Mollusc may at once call up an idea of the type which prevails in the group. It won't do to say "shell-fish," because many molluscs have no shells, and

many animals which have shells are not molluscs. The name was originally bestowed on account of the softness of the animals. But they are not softer than worms, and much less so than jelly-fish.

The recognition of a mollusc, however, will not be difficult when you have learned to distinguish it from one of the ARTICULATA, forming the third great division,—the third animal Type. Of these, our vases present numerous representatives: prawns, beetles, water-spiders, insect-larvæ, and worms. There is a very obvious character by which these may be recognized: they have all bodies composed of numerous *segments*, and their limbs are *jointed*, and they have mostly an *external* skeleton from which their limbs are developed. Sometimes the segments of their bodies are numerous, as in the centipede, lobster, &c.; sometimes several segments are fused together, as in the crab; and sometimes, as in worms, they are indicated by slight markings or depressions of the skin, which give the appearance of little rings, and hence the worms have been named *Annelida*, or *Annulata*, or *Annulosa*. In these last-named cases the segmental nature of the type is detected in the fact that the worms grow, segment by segment; and also in the fact that in most of them each segment has its own nerves, heart, stomach, &c.

Just as we recognize a vertebrate by the presence of a backbone and internal skeleton, we recognize an articulate by its jointed body and external skeleton. In both, the nervous system forms the axis of the body. The Mollusc, on the contrary, has no skeleton, internal or external; and its nervous system does not form an axis. As a rule, both vertebrates and articulates have limbs—although there are exceptions in serpents, fishes, and worms. The Molluscs have no limbs. Backboned,—jointed,—and non-jointed,—therefore, are the three leading characteristics of the three types.

Let us now glance at the fourth division—the RADIATA,

—so called because of the disposition of the organs round a centre, which is the mouth. Our fresh-water vases afford us only *one* representative of this type—the *Hydra*, or fresh-water Polype. Is it not strange that while *all* the Radiata are aquatic, not a single terrestrial representative having been discovered, only one should be found in fresh water? Think of the richness of the seas, with their hosts of Polypes, Actinæ, Jelly-fish, Star-fishes, Sea-urchins, Sea-pens, Lily-stars, and Sea-cumberers, and then compare the poverty of rivers, lakes, and ponds, reduced to their single representative, the *Hydra*.

Cuvier, to whom we owe this classification of the animal kingdom into four great divisions, would have been the first to recognize the chaotic condition in which he left this last division, and would have acquiesced in the separation of the PROTOZOA, which has since been made. This fifth division includes many of the microscopic animals known as *Infusoria*; and receives its name from the idea that these simplest of all animals represent, as it were, the beginnings of life.

Cornhill Magazine.

LANDING OF THE BRITISH ARMY IN THE PENINSULA.

It was a dread, yet spirit-stirring sight !
 The billows foamed beneath a thousand oars,
 Fast as they land, the red-cross ranks unite,
 Legions on legions brightening all the shores.
 Then banners rise, and cannon-signal roars,
 Then peals the warlike thunder of the drum,
 Thrills the loud fife, the trumpet flourish pours,
 And patriot hopes awake, and doubts are dumb,
 For, bold in freedom's cause, the bands of ocean come !

A various host they come—whose ranks display
 Each mode in which the warrior meets the fight,
 The deep battalion locks its firm array,
 And meditates his aim the marksman light ;
 Far glance the lines of sabres flashing bright,
 Where mounted squadrons shake the echoing mead,
 Lacks not artillery, breathing flame and might ;
 Nor the fleet ordnance, whirled by rapid steed
 That rivals lightning's flash in ruin and in speed.

A various host,—from kindred realms they came,
 Brethren in arms, but rivals in renown.—
 For yon fair bands shall merry England claim,
 And, with their deeds of valour, deck her crown.
 Hers their bold port, and hers their martial frown,
 And hers their scorn of death in freedom's cause,
 Their eyes of azure, and their locks of brown,
 And the blunt speech, that bursts without a pause,
 And freeborn thoughts, which league the soldier with the
 laws.

And, O loved warriors of the minstrel's land !
 Yonder your bonnets nod, your tartans wave !
 The rugged form may mark the mountain band,
 And harsher features, and a mien more grave ;
 But ne'er in battle-field throbb'd heart so brave,
 As that which beats beneath the Scottish plaid ;
 And, when the pibroch bids the battle rave,
 And level for the charge your arms are laid,
 Where lives the desperate foe, that for such onset staid ?

Hark ! from yon stately ranks what laughter rings,
 Mingling wild mirth with war's stern minstrelsy,
 His jest while each blithe comrade round him flings,
 And moves to death with military glee :
 Boast, Erin, boast them ! tameless, frank, and free ;

In kindness warm, and fierce in danger known ;
Rough Nature's children, humorous as she :
And Hæ, yon chieftain,—strike the proudest tone
Of thy bold harp, green Isle !—the Hero is thine own.

SCOTT.

THE FIELD OF WATERLOO.

There was a sound of revelry by night,
And Belgium's capital had gathered then
Her Beauty and her Chivalry ; and bright
The lamps shone o'er fair women and brave men ;
A thousand hearts beat happily ; and when
Music arose with its voluptuous swell,
Soft eyes looked love to eyes which spake again,
And all went merry as a marriage-bell.—
But hush !—hark ! A deep sound strikes like a rising knell !

Did ye not hear it ?—No : 'twas but the wind,
Or the car rattling o'er the stony street ;
On with the dance !—let joy be unconfined !
No sleep till morn, when Youth and Pleasure meet
To chase the glowing Hours with flying feet—
But hark !—that heavy sound breaks in once more,
As if the clouds its echo would repeat ;
And nearer, clearer, deadlier than before !
Arm ! arm ! it is—it is—the cannon's opening roar !

Within a windowed niche of that high hall
Sat Brunswick's fated chieftain : he did hear
That sound the first amidst the festival,
And caught its tone with Death's prophetic ear ;
And when they smiled because he deemed it near,
His heart more truly knew that peal too well,
Which stretched his father on a bloody bier,

And roused the vengeance blood alone could quell :
He rushed into the field, and, foremost fighting, fell !

Ah ! then and there was hurrying to and fro,
And gathering tears, and tremblings of distress,
And cheeks all pale, which, but an hour ago,
Blushed at the praise of their own loveliness ;
And there were sudden partings, such as press
The life from out young hearts, and choking sighs
Which ne'er might be repeated : who could guess
If ever more should meet those mutual eyes,
Since upon night so sweet such awful morn could rise !

And there was mounting in hot haste : the steed,
The mustering squadron, and the clattering car,
Went pouring forward with impetuous speed,
And swiftly forming in the ranks of war :
And the deep thunder, peal on peal, afar ;
And near, the beat of the alarming drum,
Roused up the soldier ere the morning star :
While thronged the citizens, with terror dumb,
Or whispering, with white lips—"The foe ! they come !
they come !"

And Ardennes waves above them her green leaves,
Dewy with nature's tear-drops, as they pass,
Grieving, if aught inanimate e'er grieves—
Over the unreturning brave ;—alas,
Ere evening, to be trodden like the grass—
Which now beneath them, but above shall grow
In its next verdure ; when this fiery mass
Of living valour, rolling on the foe,
And burning with high hope, shall moulder cold and low !

Last noon beheld them full of lusty life ;
Last eve, in Beauty's circle proudly gay ;

The midnight brought the signal sound of strife,—
The morn the marshalling in arms,—the day,
Battle's magnificently stern array.
The thunder-clouds close o'er it : which when rent,
The earth is covered thick with other clay,
Which her own clay shall cover—heaped and pent ;
Rider and horse,—friend, foe, in one red burial blent !
BYRON.

SCENERY OF THE CARBONIFEROUS FORESTS.

THE forms of vegetation that flourished during the Carboniferous era seem to have been in large measure marshy plants, luxuriating on low muddy delta-lands, like the cypress-swamps of the Mississippi, or the Sunderbunds of the Ganges. We can picture but faintly the general scenery of these old forests from the broken and carbonized remains that have come down to us. But though perhaps somewhat monotonous on the whole, it must have been eminently beautiful in detail. The sigillariæ raised their sculptured stems and lofty waving wreaths of fronds high over the more swampy grounds, while a thick underwood of ferns and star-leaved asterophyllites clustered amid the shade below. The lepidodendra shot forth their spiky branches from the margin of green islets, and dropped their catkins into the sluggish water that stole on among the dimpled shadows underneath. Tree-ferns spread out their broad pendent fronds, and wrapt the ground below in an almost twilight gloom, darker and deeper far than that

“ Hospitable roof
Of branching elms star-proof,”

which rose so often in the visions of Milton ; or that

"graceful arch" so exquisitely sung by Cowper, beneath which

"The chequered earth seems restless as a flood
Brushed by the wind. So sportive is the light
Shot through the boughs, it dances as they dance,
Shadow and sunshine intermingling quick,
And darkening and enlightening, as the leaves
Play wanton, every moment, every spot."

Thickets of tall reeds rose out of the water, with stems massive as those of our forest-trees, encircled at regular distances by wreaths of pointed leaflets, and bearing on their summits club-like catkins. Far away, the distant hills lay shaggy with pine-woods, and nursed in their solitudes the springs and rivulets that worked a devious course through forest, and glen, and valley, until, united into one broad river, they crept through the rich foliage of the delta and finally passed away out to sea, bearing with them a varied burden of drift-wood, pine-trees from the hills, and stray leaves and cones from the lower grounds.

How different such a scene from that now presented by the very same areas of country! These old delta lands are now our coal-fields, and have exchanged the deep stillness of primeval nature for the din and turmoil of modern mining districts. In these ancient times, not only was man uncreated, but the earth as yet lacked all the higher types of vertebrated being. None of the animals that we see around us existed then; there were no sheep, nor oxen, horses, deer, nor dogs. Neither were the quadrupeds of other lands represented; the forests nourished no lions or tigers, no wolves or bears, no opossums or kangaroos. In truth, the land must have been a very silent one, for we know as yet of no animated existence that could break the stillness, save perchance some chirping grasshopper, or droning beetle, or quivering dragon-fly. No bee hummed along on errands of industry; it is doubtful, indeed,

whether honey-yielding flowers formed part of the carboniferous flora; no lark carolled blithely in the sky, nor rook croaked among the woods. All was still; and one might, perhaps, have stood on some of those tree-crested islets, and heard no sound but the rippling of the water along the reedy and sedgy banks, and the rustling of the gloomy branches overhead.

To one who muses on these bygone ages it is no unimpressive situation to stand in the midst of a large coal district and mark its smoking chimneys, clanking engines, and screaming locomotives, its squalid villages and still more squalid inhabitants, and its mingled air of commercial activity, physical wretchedness, and moral degradation. It is from such a point of view that we receive the most forcible illustration of those great changes whereof every country has been the scene, and which are so tersely expressed by one who has gazed on the revelations of geology with the eye of a true poet—

“There rolls the deep where grew the tree.
O earth, what changes hast thou seen!
There where the long street roars, hath been
The stillness of the central sea.”

But the lifelessness of the carboniferous forests was amply compensated by the activity that reigned in river, lagoon, and sea. Coral groves gleamed white beneath the waves, fishes of many a shape disported in stream and lake, and the bulkier forms, armed in massive plates of bone, ascended the rivers or haunted the deeper recesses of the open sea. In some beds of rock the remains of these various animals lie crowded together like drifted tangle on the sea-shore, and the whole reminds us of a vast cemetery or charnel-house. The bones lie at all angles, many of them broken and disjointed as though the owner had died at a distance, and his remains, sadly mutilated on the way, had been borne to their last resting-place by the shifting currents; others lie all in place, covered with their armature

of scales, as though the creature, conscious of approaching dissolution, had sought out a sheltered nook and there lain down and died. It is not uninteresting or uninteresting to trace out in an old quarry stratum above stratum, each with its groups of once living things. I know of few employments more pleasant than to sit there, amid the calm stillness of a summer evening, when the shadows are beginning to steal along the valleys and creep up the hill-sides, and in that dim fading light to try in fancy to clothe these dry bones with life, to picture the time when they lived and moved in the glassy depths of lakes and seas, or amid the solitudes of jungles and forests, and so to spend a pleasant hour in reverie, till roused at last by the vesper song of the lark, or the low moanings of the night wind as it sighs mournfully through the woods. GEIKIE.

THE BLACKBIRD.

THE peculiarity of the blackbird is, that he *makes* silence. The more he whistles, the more still is all nature beside. It is not difficult to imagine him a sort of fugleman, herald, or black rod, going between earth and heaven in the interest of either. Take a case : an evening in autumn. About six o'clock there comes a shower of rain, a bountiful shower, all in shilling drops. The earth drinks and drinks, holding its breath ; while the trees make a pleasant noise, their leaves kissing each other for joy. Presently the rain ceases. Drops fall one by one, lazily, from the satisfied boughs, and sink to the roots of the grass, lying there in store. Then the blackbird, already on duty in his favourite tree, sounds his bugle-note. "Attention !" sings he to the winds big and little ; "the earth will return thanks." Whereupon there is a stillness deep as—no, not as death, but a silence so profound that it seems as if it were itself the

secret of life, that profoundest thing. Silence proclaimed, thanksgiving begins. There is a sensation of the sound of ten thousand voices, and the swinging of ten thousand censers ; besides the audible singing of birds, the humming of beetles, and the noise of small things which join in the anthem by rubbing their legs together.

This bird seems to take another important part in the scheme of nature, worth mentioning.

Everybody—everybody at least who has watched by a sick-bed—knows that days have their appointed time, and die as well as men. There is one awful minute in the twenty-four hours when the day palpably expires, and then there is a reach of utter vacancy, of coldness and darkness ; and then a new day is born, and earth, reassured, throbs again. This takes place at various times, according to the season ; but generally about two o'clock in the morning in these latitudes. If you happen to be watching or working within doors, you may note the time by a coldness and shuddering in your limbs, and by the sudden waning of the fire, in spite of your best efforts to keep it bright and cheerful. Then a wind—generally not a very gentle one—sweeps through the streets—*once* : it does not return, but hurries straight on, leaving all calm behind it. Now a blush suffuses the East, and then open the violet eyes of the day, bright and pure as if there were no death in the world, nor sin. All which the blackbird seems to announce to the natural world below. The wind we spoke of warns him ; whereupon he takes his head from under his wing, and keeps a steady look-out towards the East. As soon as the glory of the morning appears, he sings his soldierly song ; as soon as he sings, smaller fowl wake and listen, and peep about quietly ; when—there comes the day overhead, sailing in the topmost air, in the golden boat with the purple sails. And the little winds that blow in the sails—here come they, swooping over the meadows, scudding along hedgerows, bounding into the big trees,

and away to fill those purple sails again, not only with a wind, but with a hundred perfumes, and airs heavy with the echoes of a hundred songs.

I wish I were a poet ; you should have a description of of all this in verses, and welcome. But if I were a musician ! Let us see what we should do as musicians. First, you should hear the distant sound of a bugle, which sound should float away : that is one of the heralds of the morning, flying southward. Then another should issue from the eastern gates ; and now the grand *reveille* should grow, sweep past your ears (like the wind aforesaid), and go on, dying as it goes. When as it dies, my stringed instruments come in. These to the left of the orchestra break into a soft slow movement, the music swaying drowsily from side to side, as it were, with a noise like the rustling of boughs. It must not be much of a noise, however, for my stringed instruments to the right have begun the very song of the morning. The bows tremble upon the strings, like the limbs of a dancer, who, a-tiptoe, prepares to bound into her ecstasy of motion. Away ! The song soars into the air as if it had the wings of a kite. Here swooping, there swooping, wheeling upward, falling suddenly, checked, poised for a moment on quivering wings, and again away. It is waltz time, and you hear the Hours dancing to it. Then the horns. Their melody overflows into the air richly, like honey of Hybla ; it wafts down in lazy gusts, like the scent of the thyme from that hill. So my stringed instruments to the left cease rustling, listen a little while, catch the music of those others, and follow it. Now for the rising of the lark ! Henceforward it is a chorus, and he is the leader thereof. Heaven and earth agree to follow him. I have a part for the brooks—their notes drop, drop, drop, like his : for the woods—they sob like him. At length, nothing remains but to blow the hautboys ; and just as the chorus arrives at its fulness, they come maundering in. They have a sweet old blunder-

ing "cow-song" to themselves—a silly thing, made of the echoes of all pastoral sounds. There's a warbling waggoner in it, and his team jingling their bells. There's a shepherd driving his flock from the fold, bleating ; and the lowing of cattle.—Down falls the lark like a stone : it is time he looked for grubs. Then the hautboys go out, gradually ; for the waggoner is far on his road to market ; sheep cease to bleat and cattle to low, one by one ; they are on their grazing ground, and the business of the day is begun. Last of all, the heavenly music sweeps away to waken more westerling lands, over the Atlantic and its whitening sails.

THACKERAY.

THE CANTATA FOR THE OPENING OF THE GREAT EXHIBITION.

(1862.)

UPLIFT a thousand voices full and sweet,
In this wide hall with earth's inventions stored,
And praise th' invisible universal Lord,
Who lets once more in peace the nations meet,
Where Science, Art, and Labour have outpour'd
Their myriad horns of plenty at our feet.

O, silent father of our Kings to be,
Mourn'd in this golden hour of jubilee,
For this, for all, we weep our thanks to thee !

The world-compelling plan was thine,
And, lo ! the long laborious miles
Of Palace ; lo ! the giant aisles,
Rich in model and design ;
Harvest-tool and husbandry,
Loom and wheel and engin'ry,

Secrets of the sullen mine,
Steel and gold, and corn and wine,
Fabric rough, or Fairy fine,
Sunny tokens of the Line,
Polar marvels, and a feast
Of wonder, out of West and East,
And shapes and hues of art divine !
All of beauty, all of use,
That one fair planet can produce,
 Brought from under every star,
Blown from over every main,
And mixt, as life is mixt with pain,
 The works of peace with works of war.

And is the goal so far away ?
Far, how far, no man can say,
Let us have our dream to-day.

O ye, the wise who think, the wise who reign,
From growing commerce loose her latest chain
And let the fair white-winged peacemaker fly
To happy havens under all the sky,
And mix the seasons and the golden hours,
Till each man find his own in all men's good,
And all men work in noble brotherhood,
Breaking their mailed fleets and armed towers,
And ruling by obeying nature's powers,
And gathering all the fruits of peace and crown'd with
 all her flowers.

TENNYSON.

